## AD-A262 367



# NAVAL POSTGRADUATE SCHOOL Monterey, California





### **THESIS**

AN ANALYSIS OF THE NAVY'S FINANCIAL MANAGEMENT SUBSPECIALTY REQUIREMENTS

by

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December, 1992

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An Analysis of the Navy's Financial Management Subspecialty Requirements

by

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Lieutenant, United States Navy
B.S., Central Missouri State University, 1980

Submitted in partial fulfillment of the requirements for the degree of

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#### **ABSTRACT**

This study analyzes the current financial management needs of the Navy in terms of the skills required for officers to perform effectively in a wide range of financial management subspecialty billets, and in terms of the development of these skills through Master's degree level education at the Naval Postgraduate School. The study identifies and defines the most required financial management skills and observes significant skill requirement patterns and relationships between these skills and a set of billet "identifier" categories. The identifier categories used are the billets' command echelon within the Navy's budgeting hierarchy, the billets' rank and designator requirements, and the billets' P In addition, this study determines that the subspecialty's Educational Skill Requirements and the Naval Postgraduate School financial management curriculum both provide adequate coverage of all of the Navy's P and Q coded financial management billets' most required financial management skills.

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#### TABLE OF CONTENTS

I.	INI	RODUCTION	
	A.	FOCUS OF THE THESIS	
	в.	RESEARCH QUESTIONS	:
	c.	DATA EXAMINED/RESEARCH METHODOLOGY	į
	D.	OUTLINE FOR THE REMAINING CHAPTERS	3
	Ε.	SUMMARY OF FINDINGS AND CONCLUSIONS	9
ıı.	BA	CKGROUND	6
	A.	SUBSPECIALTY ESTABLISHMENT AND REVIEW PROCESS .	$\epsilon$
	В.	THE FINANCIAL MANAGEMENT SUBSPECIALTY	13
	c.	BILLET IDENTIFIERS	17
		1. Designator	17
		2. Rank	18
		3. Command Echelon	19
	D.	THE ROLES OF THE NAVAL POSTGRADUATE SCHOOL AND N-	
		82	20
III.	. PI	RESENTATION OF DATA COLLECTED	22
	A.	DATA SUMMARY	22
		1. Billet Identification Elements	22
		2. Billet Skills	25

IV. AN	ALYSES AND FINDINGS	28
Α.	ANALYSIS OF THE NAVY'S FINANCIAL MANAGEMENT	
	BILLETS	28
	1. Observed Patterns of Skill Requirements by	
	Identifiers	28
	a. Comparison of Billet Skills and Command	
	Echelon	29
	b. Comparison of Billet Skills and Rank	32
	c. Comparison of Billet Skills and	
	Subspecialty Code	32
	d. Comparison of Billet Skills and	
	Designator	33
	2. Observed Dependent/Independent Relationships	
	Between Billet Skills and Identifier	
	Categories	33
в.	ANALYSIS OF FINANCIAL MANAGEMENT EDUCATIONAL	
	SKILL REQUIREMENTS	38
c.	ANALYSIS OF THE NPS FINANCIAL MANAGEMENT	
	CURRICULUM	47
v. cond	CLUSIONS AND RECOMMENDATIONS	65
A.	SUMMARY AND CONCLUSIONS	65
В.	RECOMMENDATIONS	67
APPENDIX	A (SUMMARY OF P AND Q CODED BILLET REQUESTS USED	
IN STUDY	")	69
APPENDIX	B (SUMMARY OF BILLET DATA IN SPSS FORMAT)	92

APPENDI	X C	(DETAILS	OF	CHI	I - S	SQU	JAR	E	TE	ST	E	IN	DI	NG	S)		٠.	•	•	101	L
LIST OF	REF	FERENCES			•			•	•	•				•	•	•			•	104	1
INITIAL	DIS	TRIBUTION	1 L	IST								_					_			106	5

#### I. INTRODUCTION

#### A. FOCUS OF THE THESIS

In 1992, it is a fact of life that the Department of Defense (DoD) in general, and the Navy, in particular, are operating in an ever-changing and uncertain world of diminished budgetary funding. Therefore, in this atmosphere, there is a continued need for a cadre of highly trained and professionally competent Navy financial managers. The efforts of this group of professionals are essential to enabling the Navy to maximize benefits from the shrinking pool of budgetary resources.

The major thrust of this study will be to analyze the current financial management needs of the Navy in terms of the skills required to perform effectively in a wide range of financial management subspecialty billets and, in terms of the development of these skills through Master's degree level postgraduate education in the financial management field.

#### B. RESEARCH QUESTIONS

The primary research question to be examined will be

What are the important financial and non-financial skill or knowledge requirements for Navy financial management subspecialty (XX31) Master's degree level coded (P or Q coded) billets?

Subsidiary research questions to be examined include

Are there any significant skill requirement patterns present as a result of examining the present Navy financial management subspecialty P and Q coded billet structure by considering the billets' officer billet designator code (OBDC), military rank requirements, command echelon level within the Navy budgeting hierarchy, or by the billets' P or Q code distinction?

Do financial management subspecialty educational skill requirements (ESRs) adequately and appropriately reflect the Navy's financial management subspecialty billet requirements?

Does the Naval Postgraduate School (NPS) financial management curriculum provide coverage of all of the Navy's financial management subspecialty billet requirements?

Should there be standardization of the financial management subspecialty billet justification/request write-up?

#### C. DATA EXAMINED/RESEARCH METHODOLOGY

Key to this study was the need to first identify and compile the financial management requirements of the Navy. This was accomplished through a thorough examination of the financial management subspecialty P and Q coded billet justifications that were provided to the Fiscal Year (FY) 1992 Subspecialty Review Board (SRB). The purpose of these justifications is to state specific reasons as to why a billet should require a subspecialty code and to state the skills necessary to perform in the billet. For the purposes of this study these billets were subdivided into "identifiers" or categories by billet designator and military requirements, by command echelon level, and by subspecialty tillet code (P or Q). Content analysis was first conducted in

order to identify specific skills necessary for performance in each billet. The compilation of these skills into categories resulted in the thirteen billet skills that were used throughout this study.

Next, the skills and identifiers were compared in order to observe patterns of skill requirements and to conduct statistical analysis of the dependent or independent relationships between them. This was accomplished through utilization of the computer-based Statistical Program for Social Sciences (SPSS) [Ref. 1].

Third, the skills identified from the billet justifications were compared to the ESR's in order to determine if the ESR's were adequately defined in terms of billet needs. The ESRs and skills were then summarized in tabular form to show which ESRs covered which skills.

Finally, the NPS financial management curriculum content was examined. The pertinent information regarding each course was identified and cross-referenced to the skills identified from the billet justifications. From this, the financial management core curriculum courses and their relationships with the skills were summarized in tabular form to show which courses covered which skills.

#### D. OUTLINE FOR THE REMAINING CHAPTERS

Chapter II describes specific background information related to the study in four areas. First, it describes the

SRB process, subspecialty billet justifications, and the purposes of both. Second, it will describe Navy subspecialty billet types, who manages these billets, and the role of the manager. Specific focus is upon P and Q coded billets. Third, the roles of NPS and N-82 in Navy financial management education will be discussed. Lastly, an explanation of the billet identifiers used in the study will be laid out.

Chapter III is a presentation of the data collected and utilized in the study. In this chapter, detailed tabular presentations depicting the data derived from the study are presented. Appropriate descriptions of the data collected accompany this presentation as necessary.

Chapter IV is the data analysis and findings presentation, which provides both non-statistical and statistical analysis of the data derived from comparisons of billet justification skill requirements to the subspecialty billets' designators, ranks, command echelon levels, and subspecialty codes. In addition, comparative analyses between ESRs and the billet skills identified from the justifications, and between the NPS financial management curriculum core courses and the billet skills, are presented.

Chapter V presents specific conclusions and recommendations which were logically drawn from the study. These are submitted for the purpose of promoting improvement in the Navy's financial management educational process.

Recommenda s for further study are also provided in this chapter.

#### E. SUMMARY OF FINDINGS AND CONCLUSIONS

The findings and conclusions of this study relate to the primary and subsidiary research questions posed in Section 3. First, there are a set of identifiable and definable skills that are required to perform in financial management subspecialty P and Q coded billets. These skills represent the current financial management billet requirements and needs of the Navy. Second, there are observable skill requirement patterns present when examining these skills within the context of the identifier categories and the levels within these categories. Third, the Educational Skill Requirements (ESRs) for the Financial Management subspecialty adequately reflect the Navy's financial management billet requirements. Fourth, the Naval Postgraduate School financial management curriculum adequately reflects the Navy's financial management billet requirements. The course offerings in the curriculum cover the skills most requested by the activities which utilize financial management subspecialists in P or Q coded billets.

The next chapter lays out the background information necessary for understanding the analysis to follow.

#### II. BACKGROUND

#### A. SUBSPECIALTY ESTABLISHMENT AND REVIEW PROCESS

For United States Naval Officers the area specialization (or specialty) required in a billet identified by a designator code representing a line officer community such as Air, Surface, or Submarine Warfare or a staff officer community such as Supply. Billets requiring additional qualifications beyond those indicated by designator are further identified by subspecialties such as Financial Management, Electronic Warfare, or Aeronautical Engineering. Therefore, subspecialties are professional development fields secondary to specialties. [Ref. 2]

In OPNAV Instruction series 1211.6, the Naval Officer Subspecialty System is described as

...an integrated manpower, personnel, and education management system designed to develop the specialized skills and knowledge necessary to satisfy specific Navy billet functions...the subspecialty system classifies and controls billets requiring officers who have specialized experience, training, or postgraduate education...in fields of interest to the Navy. [Ref. 3]

The Navy's Subspecialty Review Board (SRB) concept was established in 1975. This was done in response to a Congressional mandate which grew out of several manpower studies in the early-to-mid 1970's. These studies examined

the Navy's effectiveness in its utilization of officers who possessed government-funded postgraduate education. [Ref. 4]

Convened by Deputy Chief of Naval Operations (DCNO) (Manpower, Personnel and Training) (OP-01), the SRB is charged with the functions of classifying and approving the Navy's subspecialty billet structure. This is accomplished by means of a biennial review and revalidation of all subspecialty requirements. The SRB is comprised of two groups, a "Working Group" and an "Executive Panel". [Ref. 3]

The Working Group is composed of primary subspecialty sponsors and consultants, and officer designator community representatives, and ' is chaired by the Subspecialty Requirements Coordinator (OP-114D1). Primary sponsors are headquarters level activities that represent the specific needs of the major activities that are users of officers occupying subspecialty coded billets. Consultants are other headquarters level activities that represent the education and skill fields within particular subspecialty areas. recommend to the primary sponsor the curricula required to educational skill requirements support the subspecialty. [Ref. 3]

The Executive Panel membership is drawn from flag-level representation throughout the Navy. It is comprised of representatives from the following organizations: [Ref. 5]

- DCNO (Manpower, Personnel and Training) (OP-01)
- ACNO (Undersea Warfare) (OP-02)

- ACNO (Surface Warfare) (OP-03)
- ACNO (Air Warfare) (OP-05)
- DCNO (Plans, Policy, and Operations) (OP-06)
- DCNO (Navy Program Planning) (OP-08)
- Director of Space, Command and Control (OP-094)
- DCNO (Naval Warfare) (OP-07)
- Director of Research and Development Requirements, Test and Evaluation (OP-098)
- One flag representative from among the major systems commands (SYSCOMs) on a rotational basis

The above list is the current Executive Panel organization as of the date of this writing. It is anticipated that the composition of this panel will change after the reorganization of the Office of the Chief of Naval Operations, which was in process as this study was being written.

The SRB process begins with the primary program sponsor's receipt of a formatted subspecialty billet request from an activity. The format of this request is shown in Figure 1. The request may be for a new subspecialty coded billet, a subspecialty code change, or for a validation review of an existing subspecialty coded billet. In each request, the skills required for the billet must be clearly stated and justified in terms of the primary sponsor's Educational Skill Requirements (ESR's) for that particular subspecialty. Figure 2 states the ESR's for the Financial Management subspecialty. [Ref.5]

	SUBSPECIALTY BILLET REQUEST
	Date New/Change Delete SRB Review
1.	Activity Title:
2.	10-digit Code UIC
3.	Billet Sequence Code (38C):
	OLD (current) NEW (if changing)
4.	Billet Designator and Rank (numeric & alphabetic):
5.	Billet Title:
6.	ASSIGNED Subspecialty Code: (P) (8)
7.	REQUESTED Subspecialty Code: (P) (S)
8.	Work Center mis=ion/function statement:
9,	Work Center Subspecialty Requirements (provide "BSC/SSC" only):  Specific justification for subspecialty code requested:
•••	
11.	Subspecialty Compensation:
	(UIC) (BSC) (SSC)
	Claimant: CODE: POC: TEL:

Subspecialty Billet Request Form
Figure 1

#### SUSPECIALTY SILLET REQUEST INSTRUCTIONS

The Administrative Billet Request is prepared by the activity where the billet resides and any only contain UNCLASSIFIED information. The request is typed single-mided on plain white bond (suitable for reproduction) and is normally prepared on one page (must not exceed two pages). The ORIGINAL form is sent via the activity manpower of siment to OCDO (Attor OP-114) or BMED (Attor EMP-154) as appropriate. One copy of the Subspecialty Billet Regrest form is maintained on file at the command where the subspecialty billet resides. A second copy is maintained at the claimant level to support biennial SRS reviews.

.....

QATE: Type or steep.

MYCRANCE: Place an "R" in this block to indicate a request to code a new billet or change the existing code.

DELETE: Place an "X" in this block to indicate a request to un-code billet.

STS REVIEW: Place on "X" in this block to indicate that fore is being submitted in conjunction with the STS review process (NOTE - changes to billet designator, grade, title etc., cannot be accomplished during the STS

- 1. ACTIVITY TITLE. Enter activity/UIC name as listed on activity CDCR or APA.
- 2. 10-01GIT CODE. Enter 10-digit code as listed on activity GCR or MPA.
- 3. BILLET SEGUENCE CODE (BSC). Provide old and new codes as applicable.
- 5. E'LLET FITLE. Transcribe billet title from activity CDCR or MP4.
- ASSIGNED SUBSPECIALTY CODE. List the primary subspecialty code (from CDCR or RPA) or leave blank if billet not currently coded. Likewise, list the secondary subspecialty code, if assigned.

(DO NOT COMPLETE REMAINDER OF FORM IF "SURSPEC"ALTY BILLET REGIREST" IS NEING SUMMITTED TO UN-CODE BILLET)

- 7. MERRITO TREFECIALTY CODE. Enter primary and, if supported, a secondary subspecialty code.
- 8. <u>VORK CENTER HISSIGN/PUNCTION STATEMENT.</u> Using the infinitive form of the verb (f.e. to sponsor, to conduct, to maintain), provide a <u>brief statement</u> that describes the major task performed by the work center to effect accomplishment of the activities sizeion. Avoid listing purposes, procedures and methods an functions.
- P. <u>NOTE CENTER SUBSPECIALTY PROVIPERENTS (SEC/SEC)</u>. List the SEC/SEC (i.e., "GZ330/0043P") of all other subspecialty-coded bilists in the work concer that are coded at the time of request. For echolon 1, 2, and 3 community, work contents, such contents, such contents, work contents, work contents to the activity/UTC level. GPMAVIEST 1008.18 (section) Section 653 refers.
- 18. SPECIFIC AUSTIFICATION FOR SUBSPECIALTY CODE REQUESTED. Using the third person, singular form of the werb (e.s., convolunts, develops, whrises), previde a statement of the major duties and the scope of the resonabilities to be performed by the incusabunt. A graduate level education requirement must clearly be supported by this description of duties.
- 11. SESPECIALTY CONTRACTION. Complete only when requesting a graduate level code (C, B, H, H, F, P or 4). Do not complete if request is submitted in resource to an "SRE Envisor".
- 12. <u>CLAIMANT</u>. Upon receipt Marpaier Claimant enters 1st and 2nd digit of Claimant Code (see MPA or CMMAYINST 1000.16, Chapter 8), name and telephone number of claimant staff master who will act as first point of contact.
  - MED MELP CMD (CP-114) at TEL:(A)224-4953/(C)(202)664-4953 for FL/URL/Staff Corps coding.

    BANES (RES-154) TEL:(A)274-6399/(C)(202)653-6399 for Madical Department coding.

Subspecialty Billet Request Form Instructions Figure 1 (Reverse side)

- i. A comprehensive understanding of all aspects of the DoN budget cycle, including planning, programming and budget formulation and execution.
- 2. The ability to identify, analyze and prepare effective and economic program alternatives. An ability to prepare and evaluate cost estimates.
- 3. The ability to manage and control funds, including appropriated, revolving and nonappropriated funds, to support approved programs.
- 4. The ability to develop and review financial reports and analyze budget execution against operating and financial plans, and to develop alternative plans based on analysis of an activity's financial performance. An ability to recommend or make management decisions regarding the reallocation or reprogramming of funds.
- 5. A comprehensive knowledge of the principles of finance and business management, in both the public and private sectors, to support participation and leadership in the development, implementation and administration of fiscal policies, procedures, systems and controls to ensure the responsible use of available resources.
- 6. The ability to develop and use internal control and audit techniques to establish sound management controls and to evaluate financial reports and operating performance.
- 7. The ability to determine the unit costs of outputs and to use such costs in the analysis of performance and allocation of resources.
- 8. An understanding of the acquisition process as it relates to procurement and development appropriations.
- 9. An understanding of joint and maritime strategic planning.
- 10. The ability to recognize issues of potential importance to the Navy, formulate a research program, perform the necessary research and report the results.

Educational Skill Requirements (ESR) for the Financial Management Subspecialty (XX31)

Figure 2

The requests are initially reviewed by interested parties at the primary sponsor level. The basic decision criterion used in this review is whether or not a billet request "makes sense". That is, they seek to find billet duplications and to find billets that may need to be created, modified, consolidated, eliminated, or otherwise changed due to creation or elimination of military activities and their associated subspecialty personnel requirements. [Ref. 6]

Next, the primary sponsor's representative meets with the designator representative to determine any specific subspecialty billet requirements for a particular officer designator community. Basically, this process determines the essential billets for a community. After the billet requests pass through this process, they are forwarded to the SRB Working Group. [Ref. 6]

The Working Group reviews the subspecialty billet requests received from the primary sponsor. The main purpose of this review is to build a consensus as to what the billet requirements and structure should be for a specific subspecialty skill field. Upon completion of their work, the results of the Working Group's deliberations are forwarded to the Executive Panel. [Ref. 6]

The Executive Panel convenes in order to review the billet justification and to grant final approval to the Navy's subspecialty billet structure. If all requests have been properly "staffed" at the Working Group level and in earlier

reviews, the Executive Panel may just "rubber-stamp" the billet requests. Conversely, in the current world of budget and personnel cuts, it can be fairly stated that thorough scrutiny of the requests occurs at this level in the review and approval process. [Ref. 6]

In summary, the SRB decides whether or not a subspecialty code is appropriate for a particular billet based upon the information provided in the billet request. The billet is expected to require skills beyond those normally expected of an officer in a specific rank and designator in order to be granted a subspecialty code.

#### B. THE FINANCIAL MANAGEMENT SUBSPECIALTY

The Financial Management subspecialty is one of hundreds of subspecialties in the U.S. Navy. In the Navy Financial Management Subspecialty field, the primary sponsor is N-82, in Office the CNO. Fiscal Management Division. the Consultants include the Deputy Comptroller of the Navy (DNAVCOMPT), the Naval Supply Systems Command (NAVSUP), the Naval Sea Systems Command (NAVSEA), the Naval Air Systems Command (NAVAIR), the Bureau of Naval Medicine (BUMED-53), DCNO for Logistics (OP-04), ACNO for Air Warfare (OP-05), Director of Space, Command and Control (OP-094), and the Naval Facilities Engineering Command (NAVFAC). Officer designators represented in Navy financial management are drawn from nearly every area in the wide spectrum of Naval warfare specialty communities. [Ref. 5]

In its role as primary sponsor of this subspecialty and the manager of all Navy financial manager billets, N-82 sets forth the ESR's necessary for performance in these billets. The billets are coded based upon the minimum education, training, experience, and skill level necessary for performance in them. There are specific criteria necessary in order for an officer to attain a particular subspecialty code in the financial management field. Figure 3 lists all of these criteria for the XX31 subspecialty letter codes.

Table I is a matrix showing the current numbers of billets, by rank and letter code. Of the current 435 financial management subspecialty coded billets, there are 272 which are coded P or Q. Some examples of these billets include:

- Business Financial Manager (BFM) in a major weapons system procurement program.
- Comptroller at a Naval Base, Naval Air Station, or other activity.
- Instructor in Financial Management education at a Department of Defense or Department of the Navy educational institution.

Appendix A contains descriptions of all of the P and Q coded justification requests that were submitted to the FY92 SRB and used as the primary data for this study.

- S-Code: To qualify for this significant experience code, an officer should have: performed for a minimum of 18 months in a validated XX31 billet requiring independent performance in matters pertaining to the budget cycle or a significant phase thereof. They should have working knowledge of:
  - the controls and systems which ensure optimum utilization of resources.
  - budget request justification and review process.
  - the allocation/execution phase of the budget.
  - financial reports and be able to perform analyses of budget execution versus operating and financial plans.
  - audit and internal review of financial management systems.
- R-Code: Requires an officer to meet the same performance criteria as "S" code with an additional 18 month minimum tour in a validated XX31 billet requiring a higher level of responsibility at the headquarters or major claimant level.
- P-Code: In the majority of cases requires a Master's level degree from the Naval Postgraduate School approved Financial Management curriculum. On a case by case basis, individuals having completed some unique requirements at the Naval Postgraduate School and who have received a degree from some other institution will be considered but this action must be approved by the Primary Consultant.
- Q-Code: Includes the same qualifications as a "P" code, requires at least one minimum 18 month tour in a validated XX31 billet, and demonstration of outstanding financial management performance in a supervisory or individual capacity. Requires expert knowledge of the programming process, ability to give/make and/or present sound financial management options to higher leadership.
- T-Code: An entry level subspecialty training billet. The officer filling such a billet performs, under supervision, tasks pertaining to the budget cycle. This may include planning, programming, budget preparation, or budget execution procedures at the headquarters level. Training may include on-the-job experience as well as formal financial management courses of instruction. These billets provide the officer sufficient experience to later serve in S-coded billets.
- E-Code: Billets requiring a combination of professional experience and a basic knowledge of financial management theories, principles, processes, and techniques certified through the acquisition of a Bachelor's level degree with major concentration in the Financial Management field. These billets require the performance of analytical work, effective assembly of information, and compilation of related reports of information essential in the financial management of Navy programs.

Financial Management Subspecialty (XX31) Billet Codes

Figure 3

TABLE I
FINANCIAL MANAGEMENT SUBSPECIALTY BILLETS
BY RANK AND CODE

RANK	Q-CODE	P-CODE	S-CODE	R-CODE	T-CODE	E-CODE
CAPT	33	18	3	1	0	0
CDR	18	101	12	4	0	0
LCDR	1	82	34	4	1	3_
LT	0	19	51	0	12	21_
LTJG	-0	0	3	0	7	4
ens	0	0	0	0	11	2

#### C. BILLET IDENTIFIERS

The financial management subspecialty billets analyzed in this study will be categorized according to four characteristics, or identifiers. These are the billet designator, rank requirement, the command echelon level in which the billet resides, and the applicable subspecialty billet code (P or Q). The first three of these - designator, rank, and command echelon - are described below. Information regarding subspecialty billet codes may be found in Figure 3.

#### 1. Designator

Naval Officer Billet Designator Codes (OBDC's) are four digit numbers used to identify the primary Naval specialty qualifications required of the billet incumbent and to administratively categorize officer billets for proper management and identification. There are currently thirteen different OBDC's represented in the total population of financial management subspecialty P and Q coded billets. An explanation of each OBDC follows: [Ref. 5]

- 1000: An Unrestricted Line Officer billet which may be filled by an appropriately skilled and experienced officer.
- 1050: An Unrestricted Line Officer billet requiring an officer qualified in any one of the warfare specialties and of rank Lieutenant and above.
- 1110: An Unrestricted Line Officer billet requiring Surface Warfare qualification.
- 1300: An Unrestricted Line Officer billet, other than operational flying (flying status terminated), requiring a current or previous Air Warfare specialty of Pilot or

Naval Flight Officer, and rank of Lieutenant and above. May fill 1000 and 1050 billets if otherwise qualified.

- 1302: An Unrestricted Line Officer billet, operational flying included, requiring the Air Warfare specialty of Pilot or Naval Flight Officer, and rank of Lieutenant and above.
- 1510: An Aerospace Engineering Duty Officer requiring the Aerospace Engineering (AEO) specialty.
- 1610: A Special Duty Officer billet requiring Cryptology specialty.
- 1630: A Special Duty Officer billet requiring Intelligence specialty.
- 2300: A Staff Corps Officer billet requiring Medical Service specialty.
- 3100: A Staff Corps Officer billet requiring Supply specialty.
- 3104: A Materiel Professional designated Staff Corps billet requiring Supply specialty.
- 5100: A Staff Corps Officer billet requiring Civil Engineering specialty.
- 5104: A Materiel Professional designated Staff Corps Officer billet requiring Civil Engineering specialty.

#### 2. Rank

Subspecialty billets will not normally be filled with officers below the rank of lieutenant commander. In the financial management subspecialty there are a very limited number of P coded billets for lieutenants. Flag-rank and warrant-grade officers do not fill subspecialty coded billets. Some examples of the types of billets filled, by rank, are as follows: [Ref. 7]

• Captain: Key fiscal planning and budget management billets at the headquarters staff level to include the

Office of the Comptroller of the Navy (NAVCOMPT), the Office of the CNO (CPNAV), NAVAIR, NAVSUP, NAVSEA (SYSCOM's), the Office of the Chief of Naval Education and Training (CNET), and the Bureau of Naval Personnel (BUPERS). Others include fleet and force commander level comptroller billets as well as Naval Shipyard comptroller billets.

- Commander: Financial analysis, budgeting, cost analysis, and fiscal planning billets at the above activities as well as at other major staffs involved in fiscal planning. In addition, they fill comptroller billets at Naval Air Stations, Naval Stations, Naval Supply Centers, and other fleet support stations, centers, and offices.
- Lieutenant Commander: Financial management and budget analysis billets at the headquarters staff and SYSCOM level, comptroller billets at smaller Naval Air Stations and Training Commands.

Table I showed the numerical breakdown of financial management subspecialty billets by rank and code.

#### 3. Command Echelon

The command echelon for a billet is the hierarchical position in the Navy's budgeting chain of command at which the activity holding that billet is located. An explanation of each level in the hierarchy follows: [Ref. 8]

- SECNAV/NAVCOMPT: Prescribes Navy budgeting procedures and policies; Provides guidance, instructions, and review for budget preparation; Reviews financial requirements and justifications for Navy programs and coordinates preparation of the budget for submission to the Office of the Secretary of Defense (OSD), the Office of Management and Budget (OMB), and the Congress; Allocates funding to SYSCOMs, bureaus, and offices; Conducts continuous review of the execution of approved budget plans and programs.
- Responsible Office (RO): An office, bureau, SYSCOM, or headquarters which has the assigned responsibility for overall management for all programs financed by an appropriation; Allocates funds to Administrative Offices (AO's).

- AO/Major Claimant/Budget Submitting Office: An office, bureau, SYSCOM, or headquarters assigned responsibility by an RO for budgeting, controlling financial obligations, tracking expenditures, accounting and reporting accuracy for assigned programs financed under appropriations or appropriation subdivisions.
- Sub-claimant/Type Commander (TYCOM)/Sub-allocation Holder: An intermediate level command assigned responsibility by an AO for budgeting, controlling obligations, tracking expenditures, accounting and reporting accuracy for assigned programs financed under an appropriation subdivision.
- Fund Administration Activity (FAA)/Responsibility Center: An organization unit headed by an officer or supervisor who is responsible for the management of resources in the unit, and who, in most instances, can significantly influence the expenses incurred in the unit; Normally issued an operating budget/allotment from an AO or subclaimant.
- Cost Center: An aircraft squadron, ship, staff, or subdivision of an FAA for which identification of costs is desired.

#### D. THE ROLES OF THE NAVAL POSTGRADUATE SCHOOL AND N-82

The roles of the Naval Postgraduate School (NPS) and N-82 in the Navy financial management subspecialty postgraduate education program are closely related. They are jointly responsible for the content of the Financial Management curriculum at NPS in order to ensure that it continues to support the subspecialty and to prepare officers to fill P and Q coded billets.

Every two years, the Financial Management curriculum content is examined jointly by NPS and OP-82 by means of a Graduate Education Curriculum Review. The directive for this review is OPNAV Instruction 1520.23B. [Ref. 9] The procedures

to be followed in this review are promulgated in NPS Instruction 1550.1 series. [Ref. 10]

NPS is charged with implementing the Navy's graduate level education programs and acts as the academic coordinator for the approved curricula of such programs as Financial Management. N-82, in its role as primary sponsor of the NPS Financial Management education program, is responsible for the development and update of ESRs for the program. NPS tailors the Financial Management curriculum to reflect the ESRs.

This chapter laid out the background information needed to understand the data that were compiled and analyzed in this study. Next, Chapter III presents the data in preparation for the statistical and non-statistical testing to be done in Chapter IV.

#### III. PRESENTATION OF DATA COLLECTED

#### A. DATA SUMMARY

The data collected and coded for this study are summarized in Appendices A and B. These are the data from the 346 P and Q-coded financial management subspecialty billet requests in Appendix B that were submitted to the FY92 Subspecialty Requirements Board (SRB). A total of 277 P-coded and 69 Q-coded billet requests are represented in the data set. Table II is an excerpt from Appendix B. It shows the format of the various data collected.

#### 1. Billet Identification Elements

Billet identification elements within Table II include the four billet identifiers from Chapter II, Section C (rank, designator, command echelon, and P or Q code designation) as well as some additional elements useful to the identification of the billet data utilized in this study. A description of the columnar billet identification elements contained in Table II follows:

• Billet Sequence Code (BSC): A five digit number assigned to billets, positions, or titles within an activity's Manpower Authorization [Ref. 5]. It is used as an automated data processing control to sequence the billet entry on the Manpower Authorization and to identify the specific billet or position. In this study, the BSC is used only to identify each of the billets used as the primary data. Some are duplicates and may be present at more than one activity.

TABLE II

## SAMPLE OF FINANCIAL MANAGEMENT SUBSPECIALTY BILLET DATA FROM APPENDIX B

											٠.								
	bsc	echelon	subcat	desig	rank	code	57	12	ន	54	15	só	17	25	20	:10	\$11	s12	s13
1	11180	3	a	1000	1	Р	1	1	0	0	1	1	0	0	0	0	1	0	0
2	10750	3	a	1000	h	p	1	1	0	0	1	0	0	1	0	1	0	0	0
3	13140	3	a	5100	h	ρ	1	1	1	0	- 1	0	0	1	0	1	0	0	0
4	13160	3	a	1000	h ;	ρ	1	1	1	٥	1	a	0	1	0	1	0	0	01
5	14010	3	a	3104	'n	P	1	1	0	0	1	0	1	1	0	1	0	0	0 -
6	12220	2	a	1050	h	D	1	1	1	0	1	0	0	1	0	1	0	0	0
7	13120	3	a	5100	h	ρ	1	1	1	0	1	0	0	1	0	1	0	0	0
-	13100	3	a	1000	h	Đ	1	1	1	0	1	0	0	1	0	1	a	0	0.
9	12260	3	a	1110	h	p	1	1	1	٥	1	à	0	1	0	0	0	O	0
10	12250	3	a	1000	h	D	1	1	3	0	1	0	0	1	0	1	0	0	0
11	12230	2	a	3100	T.	ρ	1	1	1	0	1	0	0	1	0	1	0	0	0 (
12	12150	3	a	5100	p	D	1	1	1	0	1	0	0	1	0	1	0	0	0 ;
13	42200	3	Œ	5100	ı	0	1	1	1	1	1	0	0	0	0	0	0	٥	ا ه
14	300	5	a	5104	g	ρ	1	1	1	1	1	0	1	0	0	0	.1	1	0
15	500	5	a	5100	ħ ·	P	1	1	1	1	1	0	1	0	a	O	1	1	01
16	200	5	a	5104	0	ρ	1	1	1	1	1	0	1	0	0	0	1	1	01
17	30200	5	a	5100	1	P	1	1	1	1	1	a	1	0	0	1	1	1	0
18	40650	3	a	3100	ı	P	1	1	1	1	1	0	0	0	0	0	٥	0	0
19	47250	. 3	a	3100	h	P	1	1	1	1	1	1	0	0	0	3	0	0	a l

- Command Echelon (ECHELON): Delineates the command echelon level within the Navy budgeting hierarchy in which the particular billet resides. A detailed description of each level within the hierarchy is contained in Chapter II, Section C, Subsection 3. The numerical identification codes used in Table II for the billets' echelon levels are:
  - 1-SECNAV/NAVCOMPT
  - 2-Responsible Office (RO)
  - 3-Administering Office (AO)
  - 4-Sub-claimant
  - 5-Fund Administering Activity (FAA)
  - 6-Cost Center
- Subcategory (SUBCAT): Delineates the subcategorization of a billet as a managerial, comptroller, or instructional billet within the applicable Navy budgeting hierarchy level. The letter identification codes used for subcategory identification in Table II are:
  - A-Managerial: Billets, excluding comptroller and instructional billets whose responsibilities involve Navy program financial management. These programs cover a wide range of missions and support funding areas including, but not limited to, aircraft procurement and shipbuilding, supply and maintenance, training, and intelligence.
  - B-Comptroller: Billets specifically identified as comptroller billets, whose responsibility is that of Navy facility financial management through proper formulation and execution of, and accounting for, an activity's operating budget.
  - C-Instructor: Billets specifically identified as instructional in nature, in the area of financial management education. These billets are found at DoD academic institutions.
- Designator (DESIG): Delineates the primary officer specialty qualifications required for each billet. A detailed description of each applicable designator is contained in Chapter II, Section C, Subsection 1.

- Rank (RANK): Delineates the occupational levels associated with the scale of Naval Officer paygrade and rank. The letter identification codes used for each rank category in Table II are:
  - G-Captain
  - H-Commander
  - I-Lieutenant Commander
  - J-Lieutenant
- Code (CODE): Delineates the subspecialty alphabetic code or suffix assigned to a particular subspecialty billet.
   A detailed description of each code is contained in Figure
   Appendix B and Table II only contain the Master's degree level P and Q-coded billets examined in this study.

#### 2. Billet Skills

All submitting activities' billet requests were analyzed for identifiable, specific skills. These skills were then placed into thirteen skill categories for tabulation and statistical analysis purposes. Most of the billet requests were quite clear as to what specific skills were required for a particular billet. These skills tended to fit rather cleanly into the list of skills below. Other billet requests were somewhat vague in their requests for specific skills. Therefore, a judgement was sometimes required as to which skill categories they fit into. No attempt was made to read into the billet justifications skills that specifically requested by the submitting activity. skills comprise the thirteen most important financial and nonfinancial skill requirements for Navy financial management subspecialty Master's degree level (P and Q coded) billets. [Ref. 11]

In Table II, each skill that was requested for a specific billet is identified by the digit "1". Each skill that was not requested is identified by the digit "0". A description of each of the billet skills and skill codes contained in Table II follows:

- Budget Analysis Skills (S1): These skills encompass the in-depth review and analysis of activity and subordinate command budget submissions. In addition, these skills require the ability to recognize and initiate optimum resource allocation and re-al ocation, as required.
- Financial Policy/Advisory Skills (S2): These skills involve functioning as financial advisor to primary and subordinate commands on all financial matters. In addition, these skills require the ability to draft policy and guidance covering accounting procedures, budget input submissions, and financial resource utilizations.
- Budget Formulation Skills (S3): These skills involve the ability to translate program requirements into financial plans which may be included in the activity's budget.
- Budget Execution Skills (S4): These skills involve executing the activity's existing budget and recommending reallocation of financial resources if required. Included in this skill is the ability to recognize the need for, and to possess the ability to pursue, additional funds as required.
- Department of the Navy (DoN) Budgetary Knowledge Skills (S5): These skills involve a working knowledge of the DoN budget system. This skill requirement includes knowledge of applicable terminology, time lines, and key budget players.
- Planning Programming and Budgeting System (PPBS) Skills (S6): These skills involve a working knowledge of the DoD PPBS concept. Familiarity with applicable terminology, time lines, and key budget players is required.
- Accounting Technical Skills (S7): These skills cover a
  wide variety of accounting areas. Typical skills include
  a knowledge of the accounting cycle, cash flow analysis,
  financial statement analysis, asset valuation, overhead
  cost allocation, cost benefit analysis, make or buy
  decisions, and capital budgeting.

- Communication and Liaison Skill (S8): These skills involve the ability to conduct clear and concise presentations on budget or program matters to interested agencies and organizations. These skills require the ability to incorporate budget and program information into presentations using current techniques and audio/visual aids.
- Contract Administration Skills (S9): These skills require the ability to interpret and administer program contracts with industry and small business organizations. An understanding of negotiated contracts and sealed bidding procedures is desired.
- Financial Reporting Skills (S10): These skills involve the ability to develop clear and concise financial summaries and reports which support programs and budgets including, but not limited to, standard financial statements.
- Supervisory Skills (S11): These skills require the ability to supervise military and civilian personnel who possess a Master's level of education.
- Auditing Skills (S12): These skills involve the ability to implement and monitor an activity's internal control systems, to audit financial statements, reports, and other financial records.
- Weapons System Acquisition Skills (S13): These skills involve the ability to understand and monitor the weapons acquisition cycle from initial concept, to full-scale production, and system phase-out/program completion.

This chapter presented the actual data in the format used for the analytical portion of this study. Chapter IV explains the analysis methods and presents the associated findings from the conduct of this analysis. In addition, Chapter IV examines the thirteen billet skills and their relationships to the financial management subspecialty ESRs and to the NPS financial management curriculum.

#### IV. ANALYSES AND FINDINGS

#### A. ANALYSIS OF THE NAVY'S FINANCIAL MANAGEMENT BILLETS

This section examines the relationships between the Navy's financial management subspecialty Master's degree level (P and Q coded) billets and the thirteen billet skills presented and defined in Chapter III, Section A, Subsection 2. The subsidiary research question this section examines is whether there are any significant billet skill patterns present as a result of comparing the billets, subclassified by their identifiers, to the thirteen billet skills identified from the billets' justification write-ups.

This analysis is presented in two subsections. In the first subsection, skill pattern findings, from examining the percentages of billets within each identifier category that require each billet skill, are presented. In the second subsection, findings are presented with regard to dependent or independent relationships between billet skills and identifier categories, based on chi-square distribution analysis.

#### 1. Observed Patterns of Skill Requirements by Identifiers

Using the tabular data contained in Appendix B, two pieces of information were obtained. First, the frequency that each billet skill was requested for each of the levels within the four identifier categories was determined. Second,

the percentage of billets, in each of the levels within the four identifier categories, that requested each skill was determined. Table III summarizes this information. The primary methodology tool used to derive this information was the Statistical Program for Social Sciences (SPSS) [Ref. 1]. An examination of the observed patterns of skill requirements by identifiers follows. No statistical measures were used in this analysis.

#### a. Comparison of Billet Skills and Command Echelon

There appear to be two clear patterns and two other moderately clear patterns that exist when considering comparisons between billet skills and command echelon level.

- There is clearly an increasing need for PPBS Skills (S6) as the command echelon level in the Navy budgeting hierarchy increases.
- Also, there is clearly an increasing need for Accounting Technical Skills (S7) as the command echelon level in the Navy budgeting hierarchy decreases.
- Although there is a fairly limited frequency of need for Contracting Administration Skills (S9) within the financial management subspecialty, there is nonetheless a moderate pattern of increasing need for this skill as command echelon level decreases.
- If the SECNAV/NAVCOMPT and Cost Center levels are eliminated from consideration because of the extremely small number of billets that fall into these echelon levels, and if the limited frequency of need for Auditing Skills (S12) in financial management subspecialty P and Q coded billets is taken into account, there exists a slight pattern of increasing need for this skill as the command echelon level decreases.

#### TABLE III

# SKILL REQUEST FREQUENCY (#) AND PERCENTAGE OF BILLETS REQUIRING EACH SKILL (%) FOR EACH IDENTIFIER CATEGORY

ECHELON		<u>\$1</u>	<u> 52</u>	<u> </u>	<u>S4</u>	<u> </u>	<u>se</u>	<u>\$7</u>	<u> 58</u>	<u>\$9</u>	<u>\$10</u>	<u>511</u>	<u> 512</u>	<u> 513</u>	
SECNAV/NAVCOMPT:		0				100			. 1 50		. 0	1 50	0	0	
RESP. OFFICE:	#		43 9 ŝ				17 39	19 43	23 52	0 3	7 16	18 41	1 2	2 5	
ADMIN. OFFICE:		112 79	134 91	115 31	100 70	117 82	36 25	78 55		10 7	14 10	62 44	12 9	7 5	
SUB-CLAIMANT:		8 89		9 100	8 89	8 89	2 22		4 44	11	2 22	5 56	2 22	0	
FUND ADMIN. ACT.		120 81	142 96	125 85	124 84	114 77	26 18		15 10	26 18	21 14		52 35	4	
COST CENTER:	*	100	100	100	100	0	0	100	0	0	. 0	0	c o	0	
RANK		£1	<u>\$2</u>	<u>\$3</u>	<u>54</u>	35	<u>s6</u>	<u>\$7</u>	<u>\$8</u>	52	<u>510</u>	<u>511</u>	<u>512</u>	<u>513</u>	
CAPTAIN:	# <b>*</b>	67 94	67 94	66 93	64 90	64 90	40 56	49 69	20 28	16 23	13 18	19 27	10 14	2 3	
		123 78	152 96	130 82	111 70	135 85	32 20	94 60		16 10	19 12	77 49	31 20	6 4	
		71 78	97 96	74 81	73 80		8 9		14 15	4	11 12			3 3	
LIEUTENANT:	#	18 69	23 89	19 73	19 73		2 8		1	14	1	15 57	6 23	· 2	
SUBSPECIALTY CODE		<u>S1</u>	<u>52</u>	<u>s3</u>	<u>\$4</u>	<u>\$5</u>	<u>56</u>	<u>\$7</u>	<u>58</u>	<u>59</u>	<u>\$10</u>	<u>511</u>	<u>\$12</u>	<u>513</u>	
	# : *	212 77	262 95	224 81	204 74	216 78	25 9	185 67	60 22	14	28 10	155 56	64 23	11	Ì
Q:	# <b>*</b>	67 97	67 97	65 94	63 91	63 91	57 83	44 64	25 36	23 33	16 23	10 15	3 4	2 3	

### TABLE III (Continued)

## SKILL REQUEST FREQUENCY (#) AND PERCENTAGE OF BILLETS REQUIRING EACH SKILL (%) FOR EACH IDENTIFIER CATEGORY

DESIGNATOR		<u>\$1</u>	<u> </u>	<u>s3</u>	<u>\$4</u>	<u> 55</u>	<u>s</u> 6	<u> 57</u>	<u>s8</u>	<u>59</u>	310	311	<u>512</u>	<u>\$13</u>
1000:	#						36 34		31 29	4	25 23	48 45	10 9	2 2
1050:	#	8 67	10 83				5 42		6 50	1	1 8	3 25	1	0
1110:	# ¥	20 100	19 95				4 20	-10 50	15 75	1 5	2 10	10 50	1 5	2 10
1300:	# *	2 67	3 100		67	2 67	1 3?	1 33	0	0	0	0	1 33	0
1302:	#	50	100	2 100	1 50	103	1 50	1 50	0	1 50	0	1 50	50	1 50
1510:	#	100	100	100	100	100	0	. 0	0	0	0	0	0	0
1610:	# *	3 100	3 100	3 100	3 100	1 33	1 33	0	G O.	0	. 0	3 3	c o	0
1630:	*	100	100	100	100	100	0	100	0	0	0	0	0	0
2300:	*		53 100	53 100	53 100	53 100	21 40	53. 100	0	18 34	1.	32 60	12 23	0
3100:	#	53 59	86 96	59 66	63 70	62 69	10 11	68 76	24 27	<b>5</b>	10 11	34 38	18 20	8 9
3104:	# *	6 75	6 75	5 63	6 75	8 100	1 13	6 75	2 25	13	1 13	2 25	3 38	0
5100:	#	32 80	38 95	34 85	29 73	30 75	1	20 50	15	5 15	4 10	29 73	17 43	0
510*:	#	6 100	5 100	6 100	6 100	6 100	17	5 83	17	0	0	5 83	3 50	0

#### b. Comparison of Billet Skills and Rank

Eight clear skill patterns appear to exist when considering billet skills within the context of the military rank identifier.

- There is an increasing need for Budget Analysis Skills (S1) as rank increases.
- There is a very high and fairly consistent need for Financial Policy/Advisory Skills (S2) at all four rank levels.
- There is an increasing need for Budget Formulation Skills (S3) as rank increases.
- There is an increasing need for DoN Budgetary Knowledge Skills (S5) as rank increases.
- There is an increasing need for PPBS Skills (S6) as rank increases.
- Although there is a limited overall frequency of need for Contract Administration Skills (S9), there is an increasing need for this skill as rank increases.
- Although there is a limited overall frequency of need for Financial Reporting Skills (S10), there is an increasing need for this skill as rank increases.
- Although there is a limited overall frequency of need for Auditing Skills (S12), there is an increasing need for this skill as rank decreases.

#### c. Comparison of Billet Skills and Subspecialty Code

There were six skill patterns that appeared to exist when considering billet skills within the context of P or Q coded billet distinction. Because there are only two levels within this identifier category, an arbitrary assumption was made that a skill pattern was said to exist if

the percentage difference between the P and Q code levels was greater than fifteen percentage points.

- Q coded billets have a greater need for Budget Analysis Skills (S1) than P coded billets.
- Q coded billets have a greater need for Budget Execution Skills (S4) than P coded billets.
- Q coded billets have a greater need for PPBS Skills (S6) than P coded billets.
- Q c ded billets have a greater need for Contract Adm stration Skills (S9) than P coded billets.
- P coued billets have a greater need for Supervisory Skills (S11) than Q coded billets.
- P coded billets have a greater need for Auditing Skills (S12) than Q coded billets.

#### d. Comparison of Billet Skills and Designator

An examination of skill need patterns within the designator identifier category was not conducted. Although there is a hierarchy that exists in terms of military status among officer designator categories, which ranges from the unrestricted line officer communities down to the various staff corps officer communities, there is no continuous progression from one designator to another as there is within the other identifier category levels. A recommendation for further study in this area can be found in Chapter V.

## Observed Dependent/Independent Relationships Between Billet Skills and Identifier Categories

The analysis and resultant findings presented in this subsection were derived statistically through utilization of

chi-square distribution analysis. A chi-square test is designed to determine whether two variables are independent or whether there is some significant dependent relationship between them. Formally, the chi-square technique tests an hypothesis regarding a significant relationship between the variables of interest. Conventionally, this hypothesis is stated in the null form, that is, that the variables are independent; there is no significant relationship between them. For this analysis, the null hypothesis  $(H_0)$  was stated as follows:

- H<sub>0</sub>: The requirement for a particular billet skill is independent of a particular identifier category.
   Essentially the same hypothesis may be stated in the alternative form, that is, that a significant dependent relationship does exist between the variables, thus:
- H<sub>1</sub>: The requirement for a particular billet skill is dependent upon a particular identifier category.
   Obviously, if the results of the chi-square test indicate that the null hypothesis is rejected, the alternative hypothesis is, therefore, accepted; and vice versa.

First, a level of significance to be used in the chisquare test was determined. The level of significance is defined as the maximum probability that will be tolerated in the hypothesis testing procedure of erroneously rejecting a null hypothesis  $(H_0)$  when it is in fact true, and thus erroneously accepting an alternative hypothesis  $(H_1)$ . This erroneous rejection is referred to as a "Type I error" in

statistical parlance. The level of significance used in the testing for this study was set at 0.1. This means that, for testing purposes, there is a 10% probability of an erroneous accept/reject decision regarding the null hypothesis. This also means that there is a 90% probability that the decision is correct. Then, the chi-square test was performed to determine whether a significant relationship existed between the billet skills need and the billets' identifier categories.

The chi-square distribution test findings were derived from a statistical comparison of each of the billet skills to the identifier categories. The test was added to the earlier SPSS program to yield contingency tables and chi-square values. A sample contingency table with a chi-square value is provided in Figure 4. Next, appropriate critical values were derived from a Pearson chi-square distribution table, using the appropriate degrees of freedom (DF in Figure 4) for each identifier category and a 0.1 level of significance. critical values were then compared to the chi-square contingency table values generated for each skill and identifier category [Ref. 12]. This comparison determines acceptance or rejection of the null hypothesis regarding each instance of independence between billet skills and identifier The null hypothesis was accepted whenever the categories. chi-square value was smaller than its corresponding critical value. A summary of the findings derived from this analysis follows. The findings are presented by billet skill.

Sample of a Contingency Table with Chi-Square Value

Figure 4

- Budget Analysis Skills (S1): The need for this skill was dependent upon command echelon, rank, designator, and P/Q code distinction.
- Financial Policy/Advisory Skills (S2): The need for this skill was dependent upon command echelon, but was independent of rank, designator, and P/Q code distinction.
- Budget Formulation Skills (S3): The need for this skill was dependent upon all four identifier categories.
- Budget Execution Skills (S4): The need for this skill was dependent upon all four identifier categories.
- DoN Budgetary Knowledge Skills (S5): The need for this skill was independent of command echelon, but was dependent upon rank, designator, and P/Q code distinction.
- PPBS Skills (S6): The need for this skill was dependent upon all four identifier categories.
- Accounting Technical Skills (S7): The need for this skill was dependent upon command echelon, rank, and designator, but was independent of P/Q code distinction.
- Communication and Liaison Skills (S8): The need for this skill was dependent upon all four identifier categories.
- Contract Administration Skills (S9): The need for this skill was dependent upon all four identifier categories.
- Financial Reporting Skills (S10): The need for this skill was independent of command echelon and rank, but was dependent upon designator and P/Q code distinction.
- Supervisory Skills (S11): The need for this skill was independent of command echelon, but was dependent upon rank, designator, and P/Q code distinction.
- Auditing Skills (S12): The need for this was dependent upon command echelon, designator, and P/Q code distinction, but was independent of rank.
- Weapons System Acquisition Skills (S13): The need for this skill was independent of command echelon, rank, and P/Q code distinction, but was dependent upon designator.

Appendix C is a detailed summary of the chi-square distribution test results.

### B. ANALYSIS OF FINANCIAL MANAGEMENT EDUCATIONAL SKILL REQUIREMENTS

This section examines the relationships between the financial management subspecialty's ESRs listed in Figure 2 of Chapter II, as set forth by N-82 as the primary subspecialty sponsor, and the thirteen billet skills presented and defined in Chapter III, Section A, Subsection 2. The subsidiary research question to be examined in this section will be to determine whether or not the ESRs adequately and appropriately reflect the Navy's financial management subspecialty billet requirements, as defined by the thirteen billet skills. In other words, do the ESRs adequately cover the most requested skills? First, each ESR will be presented. Then, the billet skills related to the applicable ESR will be laid out and accompanied by a short explanation as to why the related skill applies to that particular ESR.

ESR #1: A comprehensive understanding of all aspects of the DON budget cycle, including planning, programming and budget formulation and execution.

#### Related skills:

- Budget Analysis Skills (S1): Covers the ability to perform analysis of subordinate activity budget input submissions
- Financial Policy/Advisory Skills (S2): Covers the ability to draft policy and guidance regarding budget input submissions
- Budget Formulation Skills (S3): Covers the ability to convert programs into financial plans and budgets
- Budget Execution Skills (S4): Covers the ability to properly execute an activity's existing budget
- DoN Budgetary Knowledge Skills (S5): Covers knowledge of DcN budgeting terminology, budget cycle time lines, and key players
- PPBS Skills (S6): Covers knowledge DoD PPBS terminology, budget cycle time lines, key players, and documents

ESR #2: The ability to identify, analyze and prepare effective and economic program alternatives. An ability to prepare and evaluate cost estimates.

#### Related skills:

- Budget Analysis Skills (S1): Covers the ability to recognize and initiate optimum resource allocation and reallocation situations
- Financial Policy/Advisory Skills (S2): Covers the ability to draft or prepare policy and guidance covering budget input submissions and re-submissions
- Budget Formulation Skills (S3): Covers the ability to translate program requirements, including alternatives, into financial plans
- Accounting Technical Skills (S7): Covers the ability to perform cost-benefit analysis and make-or-buy evaluations in comparing program options, alternatives, or trade-offs

ESR #3: The ability to manage and control funds, including appropriated, revolving and nonappropriated funds, to support approved programs.

#### Related skills:

- Financial Policy/Advisory Skills (S2): Covers the ability to draft policy and guidance regarding accounting procedures and financial resource utilization, management, and control
- Budget Execution Skills (S4): Covers the ability to control the execution of an existing and approved budget of funds
- DoN Budgetary Knowledge Skills (S5): Covers the ability to recognize differences between the various classes of funds within the DoN
- Accounting Technical Skills (S7): Covers the ability to acquire and utilize technical accounting knowledge in a wide variety of areas including, but not limited to, the accounting cycle and financial statement composition and analysis
- Financial Reporting Skills (S10): Covers the ability to develop financial summaries, statements, and reports for use as management and control tools by concerned parties internal and external to the reporting activity
- Auditing Skills (S12): Covers the ability to internally monitor the effectiveness of an activity's management and control of funds

ESR #4: The ability to develop and review financial reports and analyze budget execution against operating and financial plans, and to develop alternative plans based on analysis of an activity's financial performance. An ability to recommend or make management decisions regarding the reallocation or reprogramming of funds.

#### Related skills:

- Budget Analysis Skills (S1): Covers the ability to recognize and initiate optimum resource re-allocation
- Budget Execution Skills (S4): Covers the ability to recommend re-allocation of financial resources to alternative plans, reprogramming funds to other programs within an activity's existing budget, or to recommend pursuit of additional funding based upon anticipated funding shortfalls discovered through budget execution analysis
- Accounting Technical Skills (S7): Covers the ability to perform financial statement analysis
- Financial Reporting Skills (S10): Covers the ability to develop financial statements, summaries, and reports which support the budget execution of existing programs

ESR #5: A comprehensive knowledge of the principles of finance and business management, in both the public and private sectors, to support participation and leadership in the development, implementation and administration of fiscal policies, procedures, systems and controls to ensure the responsible use of available resources. This ESR is deliberately broad and all skills relate to it.

#### Related skills:

- Budget Analysis Skills (S1): Covers the ability to recognize and initiate optimum resource allocation
- Financial Policy/Advisory Skills (S2): Covers the ability to function as a financial advisor internal and external to the activity, as well as to be able to draft policy and guidance covering financial matters
- Budget Formulation Skills (S3): Covers the ability to develop financial plans and budgets which serve as tools for effective financial resource management

- Budget Execution Skills (S4): Covers the ability to implement and execute an existing budget to ensure proper utilization of monetary resources
- DoN Budgetary Knowledge Skills (S5): Covers the ability to effectively participate in the Navy budgeting process
- PPBS Skills (S6): Covers the ability to effectively participate in the DoD budgeting process
- Accounting Technical Skills (S7): Covers the ability to effectively apply DoD accounting principles and procedures
- Communications and Liaison Skills (S8): Covers the ability to effectively and credibly represent the activity in financial matters in dealings with internal and external concerned parties
- Contract Administration Skills (S9): Covers the ability to apply federal contract administration policies and procedures
- Financial Reporting Skills (S10): Covers the ability to develop clear and concise summaries and reports that accurately reflect the financial resource status and official position of the activity to higher activities
- Supervisory Skills (S11): Covers the use of effective supervisory management practices to ensure organizational participation, leadership, and optimum use of the available human resources in the organization
- Auditing Skills (S12): Covers the ability to effectively implement, monitor, and audit an activity's internal financial control systems to ensure responsible and legal utilization of funds
- Weapons System Acquisition Skills (S13): Covers the ability to understand the roles and the responsibilities of the business and financial manager (BFM) within the Navy weapons system acquisition program management organization

ESR #6: The ability to develop and use internal control and audit techniques to establish sound management controls and to evaluate financial reports and operating performance.

#### Related skills:

- Financial Reporting Skills (S10): Covers the ability to recognize adequate and properly presented financial reports in order to correctly judge the fairness of financial statements in presenting an organization's financial performance
- Supervisory Skills (S11): Covers the ability to properly assign trained audit personnel whose task is to adequately evaluate the accuracy of financial statements, an activity's internal control systems' effectiveness, and the activity's overall operating performance
- Auditing Skills (S12): Covers the ability to implement and monitor an activity's internal control systems, evaluate management controls, and to monitor proper preparation and maintenance of financial statements, records, and reports; includes knowledge of government auditing standards, and the organization and conduct of internal and external audits conducted by appropriate government agencies

ESR #7: The ability to determine the unit costs of outputs and to use such costs in the analysis of performance and the allocation of resources.

#### Related skill:

• Accounting Technical Skills (S7): Covers the use of the unit costing concept in material, labor, and overhead cost allocation, particularly within the DoD

ESR #8: An understanding of the acquisition process as it relates to procurement and development appropriations.

#### Related skills:

- DoN Budgetary Knowledge Skills (S5): Covers the procurement terminology, Congressional budget appropriations, and key players unique to the DoN
- PPBS Skills (S6): Covers the application of knowledge regarding how a proposed acquisition program progresses through the PPBS process and eventually becomes an approved program with a financial resource budget

 Weapons Systems Acquisition Skills (S13): Covers the ability to understand the DoD weapons system acquisition cycle from concept development with initial research and development funding to full scale production and procurement appropriation funding

ESR #9: An understanding of joint and maritime strategic planning.

#### Related skill:

• PPBS Skills (S6): Covers knowledge of the roles of threat assessment, strategy formulation, and the major players in the initial planning phase of PPBS

ESR #10: The ability to recognize issues of potential importance to the Navy, formulate a research program, perform the necessary research and report the results. Under this ESR, the subject and nature of the research program will determine which skills are relevant. Any and all of the skills have potential relevance.

#### Related skills:

- Budget Analysis Skills (S1): Covers the ability to provide in-depth review and analysis of Navy financial resource management and budgeting issues
- Financial Policy/Advisory Skills (S2): Covers the ability to obtain financial information, summarize the information, and report relevant findings in order to serve and function as a credible financial policy advisor to primary and subordinate commands
- Budget Formulation Skills (S3): Covers the ability to understand and examine the Navy's budget formulation processes
- Budget Execution Skills (S4): Covers the ability to examine and report on execution performance for past and present Navy budgets

- DoN Budgetary Knowledge Skills (S5): Covers the ability to apply a working knowledge of the Navy's budgeting process to examine budgeting issues of importance
- PPBS Skills (S6): Covers the ability to apply a working knowledge of the DoD budgeting process and framework to examine DoD-wide budgeting issues
- Accounting Technical Skills (S7): Covers the ability to apply basic accounting concepts, especially the concepts of cost-benefit and rinancial statement analysis, to the examination of Navy budget formulation procedures and budget execution performance, respectively
- Communications and Liaison Skills (S8): Covers the ability to research, prepare and present results related to budget or program matters using current techniques and presentation aids
- Contract Administration Skills (S9): Covers the ability to utilize a working knowledge of the DoD's contract administration and oversight functions in order to examine issues of importance in DoD contracting
- Financial Reporting Skills (S10): Covers the ability to develop clear and concise financial summaries, reports, or statements that support an activity's budget, program, and/or position
- Supervisory Skills (S11): Covers the ability to recognize and examine human resource management issues of importance
- Auditing Skills (S12): Covers the ability to examine and report on an activity's internal control system
- Weapons System Acquisition Skills (S13): Covers the ability to utilize a working knowledge of the weapons system acquisition cycle in order to examine and report on past, present, and future issues involving particular weapons acquisition programs or processes

Table IV provides a tabular summary of the ESR analysis in this section.

TABLE IV
SUMMARY OF BILLET SKILLS COVERED BY EACH ESR

ESR	S 1	S 2	S 3	S 4	S 5	S 6	S 7	S 8	S 9	S 1 0	S 1 1	S 1 2	S 1 3
1	x	x	х	x	x								
2	x		×				x						
3		×		x	x		×			x		x	
4	x			x			×			x			
5	x	x	x	x	x	x	x	x	x	x	x	x	×
6										x	x	x	
7							x						
8					x	x							×
9						x							
10	x	×	×	x	x	×	×	×	×	×	×	×	×

#### C. ANALYSIS OF THE NPS FINANCIAL MANAGEMENT CURRICULUM

This section provides a comparison of the core courses offered within the NPS Financial Management curriculum to the thirteen skills identified from the subspecialty billet justifications that have been utilized as the primary data for this study. The subsidiary research question that is examined in this section is whether the NPS Financial Management curriculum courses provide coverage of all the Navy's financial management subspecialty billets' requirements with regard to the skills most requested in billet justifications. In other words, given a skill, is there a course in the financial management core curriculum that covers it?

Each course is presented by its course number, its title, and by a brief description of the course's content. The description is primarily taken from the 1992 NPS Course Catalog [Ref. 13]. In many cases, the description has been embellished with information gleaned from academic course journals, which include applicable information such as course outlines and objectives, syllabus information, textbooks, other reading and writing assignments, and examinations.

Next, each course was examined for specific applicability of each of the thirteen billet skills that were drawn from examination of the billet justifications. In order for a skill to have applicability to a particular course, a fairly concrete example of the skill's application to the course's

content had to exist and lend itself to explanation. No effort was made to read look beyond either the course content or the definition of each skill as provided in Chapter III, Section A, Subsection 2, if a specific application of a skill to a course could not be found.

The core courses are presented in the order which a typical student takes them in the NPS Financial Management curriculum.

Course: MN 2150 Financial Accounting

<u>Description</u>: The course is a study of basic accounting concepts and standards. Specific topics include study of the accounting cycle, asset valuation, liabilities and capital structure, earnings measurement, cash flow analysis, and financial statement analysis.

#### Applicable skills:

- Accounting Technical Skills (S7): All of the above areas specifically apply to this skill.
- Financial Reporting Skills (S10): The course demonstrates how to develop standard financial statements.

Course: MN 2031 Economic Decision Making

<u>Description</u>: This course focuses on the methods of national income determination, the consumption function, the money multiplier, and the impact of federal government fiscal and monetary policies. The course includes analysis of individual economic decisions and their relation to attainment of market equilibrium.

#### Applicable Skill:

• None covered explicitly, although an understanding of federal fiscal policy is important in preparing and justifying budgets.

Course: MN 3333 Managerial Communication Skills

Description: The course provides students with the writing, speaking, listening, team management, and critical thinking skills required of them to be effective managers. Instruction concentrates on communication media selection strategies, writing informative and persuasive documents, giving effective presentations, managing team processes, and developing the communication competencies of subordinates through effective feedback. The course focuses on communication issues unique to DoD and the Navy and utilizes individual, group, and team work in the study of these issues.

- Financial Policy/Advisory Skills (S2): The course develops the students' ability to draft and implement effective policy and guidance in all areas including, but not limited to, financial matters.
- Communication and Liaison Skills (S8): The course gives students the opportunity to design and conduct clear and concise presentations on topics of the students' choosing. Students are presented with, and given an opportunity to use, the latest in effective presentation techniques and audio-visual aids.
- Supervisory Skills (S11): The course provides student with the opportunity to learn and use more effective techniques in the management of military and civilian personnel within the organizational team. Prior student experience is heavily drawn upon for discussion as well as case study.

Course: MA 2300 Mathematics for Management

<u>Description</u>: The course provides the mathematical basis for modern managerial tools and techniques with emphasis on military applications. It also presents elements of differential and integral calculus, including optimization problems, an introduction to matrix algebra, and solutions of linear systems of algebraic equations.

#### Applicable skill:

• Budget Analysis Skills (S1): The course teaches students the underlying methods of analysis necessary to initiate and solve resource optimization problems, particularly in the area of financial resource management.

Course: IS 0123 Computer Skills Development

<u>Description</u>: The course provides instruction in the use and operation of microcomputers with emphasis on applications in administrative sciences. It provides students exposure to pertinent software packages such as WordPerfect, for constructing written documents, and Lotus, for construction of budget spreadsheets and financial statements.

- Department of the Navy (DoN) Budgetary Knowledge Skills (S5): The course presents the Lotus software package which is the primary formatting tool for the actual construction of the Navy's budget.
- Communication and Liaison Skills (S8): The course presents students an opportunity to construct clear and concise microcomputer-based presentations including, but not limited to, budgetary and financial matters using current techniques such as computer generated graphics and Lotus-based spreadsheets.

• Financial Reporting Skills (S10): The course teaches students the microcomputer-based means by which to develop, draft, construct, and graphically present written financial summaries, statements, budgets, and reports.

Course: MN 3161 Management Accounting

Description: The course provides an introduction to cost determination systems including job order costing systems, overhead accounting, standard costs, and unit costing. Emphasis is on applications of financial data to planning, control, and decision making in government organizations. Topics covered include budgeting, flexible budgeting, variance analysis, budget performance measures, cost-volume-profit analysis, cost analysis for decision making, and capital budgeting.

- Budget Analysis Skills (S1): The course provides students with the tools needed for financial analysis and decision making, particularly in the area make-or-buy decisions in the analysis of budget input submissions. The course also presents analytical techniques such as variance analysis, used for decision making in financial resource allocations and in budget performance measurement.
- Budget Formulation Skills (S3): Students are presented concepts which provide the ability to translate financial decisions regarding a program or organization into financial plans which may comprise or be included into an activity's budget.
- Budget Execution Skills (S4): The course covers the measurement of budget execution performance through comparison of actual versus planned budgets using flexible budgeting and variance analysis techniques.
- Accounting Technical Skills (S7): Skills are developed in the areas of cost determination for and cost-benefit analysis of programs, make-or-buy decisions, and capital budgeting in Navy industrial activities.

• Financial Reporting Skills (S10): Students further develop knowledge in the usage of financial statements, summaries, and reports which support financial programs and their related budgets.

Course: MN 3140 Microeconomic Theory

<u>Description</u>: The course covers the allocation of resources, both financial and others, and the distribution of output. It presents financial resource allocation optimization problems, consumer and producer choice theory, and economic equilibrium analysis. Applications to public sector problems is emphasized.

#### Applicable skill:

• Budget Analysis Skills (S1): The student acquires the ability to solve resource allocation optimization problems within the context of constrained budgets.

Course: MN 3105 Organization and Management

<u>Description</u>: The course studies the elements of management in organizations facing a dynamic environment. Emphasis is on contemporary management principles and theories of decision making, leadership, planning and control, organizational structure and planned organizational change, and their systemic impacts on organizational effectiveness and adaptation. Extensive use is made of DoD cases involving the management of civilian and military personnel.

#### Applicable skill:

• Supervisory Skills (S11): The course teaches students the tools necessary to manage a dynamic organizational structure and to manage military and civilian personnel.

Course: OS 3101 Statistical Analysis for Management

<u>Description</u>: This is a specialized course covering the basic methods of probability and statistics with emphasis on managerial applications. It includes applications of various probability models, statistical inference, and regression analysis. It also includes various parametric statistical techniques such as significance testing, confidence intervals, point estimation, and tests of hypotheses.

#### Applicable skill:

• Weapons System Acquisition Skills (S13): The course teaches risk probability assessment techniques that are applicable within the weapons system acquisition and program management cycle.

Course: MN 4161 Management Control Systems

<u>Description</u>: A study of the structure and processes of financial resource management control in government and private sector organizations. Specific topics include the basic concepts of planning and control for financial resources, organization of the management control function, measurements of financial inputs and outputs, pricing of government services, programming, budgeting, accounting, and performance evaluation systems. Heavy emphasis is placed upon case study.

#### Applicable skills:

- Budget Analysis Skills (S1): The course examines corporate and military budget submissions via case study analysis.
- Financial Policy/Advisory Skills (S2): The course places emphasis on the management control aspects of budget policy, budget inputs and outputs, formulation guidance, and execution guidance.
- Budget Formulation Skills (S3): The course covers budget formulation by providing students the ability to understand the control process by which the federal government translates program requirements and financial constraints into budget inputs which are later converted into outputs or budgets.
- Budget Execution Skills (S4): The course places emphasis on proper management control in the execution of existing budgets. It also examines budget performance evaluation/measurement for actual versus planned budget execution.
- Accounting Technical Skills (S7): The course covers financial statement analysis through usage of techniques such as financial ratio analysis.
- Financial Reporting Skills (S10): The emphasis is placed upon development of reports, summaries, and financial statements which support management control and provide performance measurement of organizational budgets.

Course: MN 3172 Public Policy and Budgeting

Description: The course provides analysis of federal fiscal policy with emphasis on financial resource decision making for national defense programs at the DoD, executive, and congressional levels of government. The roles of the principal players in the budget process are defined. The executive and congressional budget processes are examined in great detail in order to provide an indication as to how the political, social, and economic objectives of the federal

government are implemented through fiscal policy. Budget formulation and execution strategies are evaluated in order to indicate the dynamics of executive and legislative branch competition over financial resource allocation priorities. Heavy emphasis is placed on the DoD PPBS process and its relation to the executive and legislative branches' budgeting processes.

#### Applicable skills:

- Financial Policy/Advisory Skills (S2): The course provides an insight into the policies which govern the federal budgeting process. It discusses the advisory roles and responsibilities of the key players in the process at all levels.
- PPBS Skills (S6): The course places heavy emphasis on the terminology and time lines within the DoD, Executive, and Legislative Branches' budgeting processes. It provides the student with a detailed knowledge of the key individuals, interest groups, committees, and other players within the national defense budget process.
- Budget Formulation Skills (S8): The course provides students the understanding as to how the federal budget is constructed from what are initially financially unconstrained plans to meet threats and national defense strategies, and how these plans are converted into programs that take limited financial resource and political considerations into account as they move toward inclusion into the national defense budget that is submitted by the President to, and ultimately acted upon by, Congress.

Course: MN 4162 Cost Accounting

<u>Description</u>: The course is a review of basic cost accounting procedures. It provides an in-depth study of cost accounting systems, the allocation of direct and indirect costs to cost objectives, activity based costing, and the special problems

of accounting for material, labor, and overhead costs. Specific attention is given to the objectives and substance of the Cost Accounting Standards (CAS) for negotiated federal procurement contracts. There is heavy emphasis on problem solving within the case study context.

#### Applicable skills:

- Financial Policy/Advisory Skills (S2): The course emphasizes an understanding of CASs' and their relationship to proper cost accounting procedures' applications to federal procurement contracts.
- Accounting Technical Skills (S7): The course provides students knowledge in the area of material, labor, and overhead cost allocation to federal contracts in accordance with CAS.
- Financial Reporting Skills (S10): The course covers the development of standard financial statements.
- Auditing Skills (S12): The course places emphasis upon developing the students' ability to examine records and reports related to federal procurement contracts for proper compliance with CAS.

Course: OS 3006 Operations Research for Management

<u>Description</u>: A survey of the problem solving techniques for operations research. Topics include decision theory, linear programming, models, project scheduling methods with particular emphasis upon PERT/CPM, inventory, queuing, and simulation.

#### Applicable skill:

 Weapons System Acquisition Skills (S13): The course is particularly pertinent when examining cost and scheduling considerations within the context of the weapons system acquisition cycle production phase. Course: MN 3154 Financial Management in the Armed Forces

Description: The course is a review of financial management
concepts and practices in the DoD with heavy emphasis on the
Department of the Navy. It includes the detailed study of
PPBS, Navy comptrollership, budget formulation and execution,
and the Navy's accounting systems. It examines the Navy's
budgeting and accounting hierarchy from headquarters level
down to the field activity and cost center levels. The course
also examines the various types of funds and appropriations
and the budgeting for, usage of, and accounting for these
financial resources within the Department of the Navy.

- Budget Analysis Skills (S1): The course examines how a Department of the Navy activity budget submission is analyzed at all levels of the budgeting hierarchy. It provides instruction and guidance on how the financial resource allocation process should work and how to recognize and rectify situations when problems are encountered.
- Financial Policy/Advisory Skills (S2): The course examines the advisory relationship between an activity's comptroller and commanding officer regarding financial matters. The course covers this skill in all areas including the role of the comptroller in drafting policy and providing budget input submission guidance, budget execution and accounting guidance, and decision making with regard to the optimal use of diminishing financial resources.
- Budget Formulation Skills (S3): The course places particularly heavy emphasis on the budget formulation input process at all budgeting hierarchy levels. This includes, but is not limited to, the application of PPBS at the headquarters level as well as the designing of an operating budget for a cost center.
- Budget Execution Skills (S4): The course examines fast versus slow spending appropriation accounts, the

apportionment process, and differences between budget authority and outlays. It also examines the timing considerations involved with the government's incurring of financial obligations within particular appropriations.

- DoN Budgetary Knowledge Skills (S5): The course provides particular emphasis on the Navy's roles, the major players, unique terminology, and time lines within PPBS. All are presented within the context of the various levels of the Navy's budgeting hierarchy.
- PPBS Skills (S6): The course provides heavy emphasis on PPBS. The various phases, key documents, individuals, and groups involved in the genesis of the Navy budget from a group of ideas to final approval as a concrete budget are presented.
- Financial Reporting Skills (S10): The major funding and reporting documents and statements the are utilized in the financial management of resources within the Navy are presented in this course. All are presented from both the perspective of the activity that prepares these documents and from the user activity that receives these reports.
- Supervisory Skills (S11): The course provides students with guidance for getting effective budget inputs from personnel and groups within an activity, particularly inputs from cost centers. It places great emphasis upon the legal obligations in accounting for government funds that all responsible and accountable personnel within an organization must live with. It also provides advice on ways to develop and ensure good relationships between an activity's comptroller and commanding officer with regard to the management of financial resources.
- Auditing Skills (S12): The course presents detailed guidelines for the effective control, maintenance, internal audit, and preparation for external audit of an activity's financial records, statement, and reports.

Course: MN 4145 Policy Analysis

<u>Description</u>: The course examines the application of microeconomic methods to market and non-market transactions. It examines life cycle cost models, cost effectiveness, cost benefit, and resource optimization models.

#### Applicable skills:

- Budget Analysis Skills (S1): The course examines financial resource budget constraints and their application to optimization of limited resource allocation.
- Accounting Technical Skills (S7): Students are exposed to the concept of cost-benefit analysis, particularly within the context of the microeconomic concepts of marginal benefit/utility versus marginal cost.
- Contract Administration Skills (S9): The course presents sealed bidding methods and related strategies such as second price sealed bidding, and the Baron-Myerson and Loeb-Magat mechanisms.

Course: IS 3183 Management Information Systems

<u>Description</u>: The course is a study of what an information system is, how the computer and other resources fit into the system, and management considerations involved in computer-based information and telecommunications systems.

#### Applicable skill:

• Communications and Liaison Skills (S8): The course examines the various computer-based telecommunications media available to activities and individual users in order for them to provide information to other interested individuals and activities internal or external to the organization. Concepts presented include, but are not limited to, local and wide area networks, information packet switching networks, and managerial decision support systems.

Course: MN 4151 Internal Control and Auditing

<u>Description</u>: The study of the objectives and techniques of internal control systems and of audits of financial reports and records. Specific topics include the internal control structure and evaluation of internal control, audit reports,

government auditing standards, audit evidence and auditing tests, the auditor's decision process, statistical sampling, and special controls and audit problems in computer-based systems. Audits of several transaction cycles are examined. Applicable skill:

• Auditing Skills (S12): The course examines the effectiveness of the implementation, monitoring, and management of an activity's internal financial control systems. It presents a comprehensive overview of the auditing function in both the public and private sector.

Course: NS 3252 Joint and Maritime Strategic Planning

Description: The course concentrates on identifying the key
warfare issues for successful accomplishment of the Navy's
missions. The evolution of threats is examined in the context
of past, present, and future U.S. defense strategy. It also
examines the roles of the individual military services, the
DoD policy making process, and joint strategic planning for
acquisitions and operations.

- PPBS Skills (S6): The course examines the historical evolution of the PPBS process and provides a working knowledge of it including applicable terminology, time lines, and key players. It examines the process within the DoD joint service acquisition and operational worlds and how it progresses from threat assessment, to strategy development, to the development of requirements to carry out the strategy, to the programming of requirements into a package of weapons or non-weapons systems, and to the final conversion of these systems into fiscally constrained budgets.
- Weapons System Acquisition Skills (S13): The course reviews the major players in the weapons system acquisition process from a historical perspective.

Course: MN 3301 Systems Acquisition and Project Management Description: The course provides an understanding of the underlying philosophies and concepts of DoD weapons systems acquisition and the practical application of project management methods within this process. Topics include the evolution and current state of systems acquisition management, the defense systems acquisition cycle including milestones and phases, user-producer acquisition management disciplines and activities, project management, planning, organizational staffing, directing and controlling, and, acquisition and contracting terminology.

- PPBS Skills (S6): The course examines the progression of a proposed weapons system project through the PPBS process as it evolves into an approved and funded program with a budget of financial resources.
- Accounting Technical Skills (S7): The course examines the considerations and choices of the government and primary contractors in make-or-buy decisions, specifically with reference to government furnished equipment (GFE) purchased by the government from subcontractors and provided to primary contractors.
- Contract Administration Skills (S9): The course specifically addresses acquisition program contracting administration procedures and regulations in accordance with DODINST 5000.2M. It also presents contract types, contract solicitation methods, and discusses contract negotiation and award considerations.
- Financial Reporting Skills (S10): The course places specific emphasis on program support statements and summaries including, but not limited to, Accounting Data Sheet preparation by a program's business and financial manager for inclusion into a system procurement request, and basic reports related to the financial management of a DoD weapons system acquisition program.

• Weapons System Acquisition Skills (S.3): The course specifically addresses this skill in all areas and in great depth.

Course: MN 4105 Strategic Management Policy

<u>Description</u>: The course is the study and analysis of complex managerial situations requiring comprehensive integrated decision making. Topics include operational and strategic planning, policy formulation, executive control, environmental adaptation, and management of change. Particular attention is given to strategic management in the military context and to the specific challenges found in the DoD and DoN organizational culture.

#### Applicable skills:

- Financial Policy/Advisory Skills (S2): The course places particular emphasis on the ability to establish and enforce policy and guidance related to financial resource allocation decision making within a complex military environment.
  - Supervisory Skills (S11): The course provides students with the ability to conduct analysis of executive control over human resources in complex organizations.

Table V provides a tabular summary of the analysis of the NPS Financial Management curriculum in relation to the thirteen billet skills.

This chapter provided analyses and findings, both statistically and nonstatistically derived, from an examination of the P and Q coded billet structure within the context of the identifier categories. In addition, it examined the adequacy of coverage that the financial

management ESRs and the NPS financial management curriculum provide regarding the financial management skill requirements of the Navy as delineated by the thirteen billet skills. Chapter V presents logical and objective conclusions regarding these findings and also presents recommendations for further study.

TABLE V

SUMMARY OF BILLET SKILLS COVERED BY EACH
NPS FINANCIAL MANAGEMENT CORE CURRICULUM COURSE

COURSE	S 1	S 2	S 3	S 4	S - 5	S 6	S 7	S 8	S 9	S 1 0	S 1 1	S 1 2	S 1 3
MN 2150							x			x			
MN 2031													
MN 3333		x						×			x		
MA 2300	x												
IS 0123					×			x.		×			
MN 3161	x		x	x			x			×			
MN 3140	x												
MN 3105											x		
OS 3101													×
MN 4161	x	x	x	x			x			×			
MN 3172		x				×		×			<u> </u>		
MN 4162		×					×			×		x	
OS 3006													x
MN 3154	×	x	x	x	×	x				x	×	x	
MN 4145	x						x		x				
IS 3183								x					
MN 4151												×	
NS 3252						×							x
MN 3301						×	×		×	×			x
MN 4105		×									×		

#### V. CONCLUSIONS AND RECOMMENDATIONS

#### A. SUMMARY AND CONCLUSIONS

There is a set of fairly broad, but definable, skill requirements observable in the population of Navy financial management subspecialty (XX31) Master's degree level coded (P or Q coded) billet justifications. These requirements are the thirteen billet skills defined in Chapter III, Section A, Subsection 2.

Some patterns were observed in the percentages of billets requiring specific skills within each of the identifier categories (excluding the designator categories). Some of these were consistent across identifiers. For example, PPBS Skills (S6) were required more often at higher echelons, at higher ranks, and in Q coded billets. Conversely, Auditing Skills (S12) were required more often at lower echelons, at lower ranks, and in P coded billets. None of these patterns was tested for statistical significance, however. All of the observed patterns are described in Chapter IV, Section A, Subsection 1.

The chi-square technique was used to test for statistically significant relationships between the thirteen billet skills and the four billet identifiers. Thus, a total of fifty-two potential relationships were tested. The results

showed that there was a significant relationship in forty of these cases and none in the other twelve. Ten of the thirteen skill (all but the Financial Policy/Advisory, Financial Reporting, and Weapons System Acquisition Skills) are significantly related to three or four of the identifier categories.

By comparing the Financial Management subspecialty's Educational Skill Requirements (ESRs) to the thirteen billet skills, it can be concluded that the ESRs adequately and appropriately reflect the Navy's financial management subspecialty billet requirements. Each ESR is applicable to one or more of the billet skills and each billet skill is covered by at least one ESR.

Comparing the Naval Postgraduate School's financial management curriculum courses to the thirteen billet skills indicates that the curriculum provides adequate coverage of all of the Navy's financial management subspecialty billet requirements as delineated by the thirteen billet skills. Each skill is covered by one or more of the courses in the curriculum. All but one of the courses relate to one or more of the billet skills in some fashion.

Numerous readings of the 346 billet justification writeups that were used as the data source for this study led to two other conclusions. First, not every activity that submitted billet justifications to the FY 92 SRB used the most current version of the justification form. The most current version was presented earlier in Figure 1. It is a standard form with explicit and detailed instructions for completion on the reverse side. Second, not every activity using the most current form fully completed the justification in accordance with the instructions. Some justifications were thoroughly filled out in great detail. Others were filled out in a more cursory and less detailed fashion. The compilation of the billet skills was made easy when the forms provided more detail.

### B. RECOMMENDATIONS

It is possible for similar studies of other Navy subspecialties to be conducted using essentially the same SPSS computer model, the same study structure, and the same written format as utilized in this study.

The structure of the SPSS program model used in this study also allows for the possibility of further and more detailed study into the financial management subspecialty. The program is structured so that nearly a thousand iterations or data combinations are possible. For example, the skill needs for all Supply Corps Commanders who occupy Q coded billets at the responsible office level or the skill needs for all Unrestricted Line Lieutenant Commanders who occupy P coded comptroller billets could be determined.

The findings with respect to the comparison between billet skills and the designator identifier are not as consistent

with conventional wisdom as those found in the cases of the other three identifiers. A more in depth study is recommended to examine/analyze differences, for example, between unrestricted line and staff corps designators, or among all line only or all staff only.

A "follow-up" type of study could be conducted to examine the success of NPS financial management graduates. This study examined the "before" aspect of financial management subspecialty education. It in no way attempts to examine the prospects for professional success in the subspecialty, given this education. A follow-up study could be conducted in order to examine the "after" aspect of financial management subspecialty education. One way may be to conduct a survey of subspecialty billet incumbents who NPS are financial management program graduates and are serving in approved P or Q coded billets during a particular time period. This survey could examine, at a minimum, the utility of the NPS financial management curriculum courses to the billet incumbent and his/her duties.

## APPENDIX A

BSC	BILLET TITLE
11180	Financial Management Officer-Budget Evaluation Group Assistant for Administration, Under Secretary of the Navy (AAUNSECNAV), Washington, DC
10750	Special Assistant for Administration/Finance AAUNSECNAV, Washington, DC
13140	Financial Management Officer for Research, Development, Testing, and Evaluation (RDT&E) AAUNSENAV, Washington, DC
13160	Financial Management Officer for Other Procurement-Navy (OPN) Appropriation AAUNSECNAV, Washington, DC
14010	Deputy Director, Financial Control Division AAUNSECNAV, Washington, DC
12220	Assistant for Reserve Matters NCBR Department of the Navy OFF/RPN, Washington, DC
13120	Financial Management Officer for Military Construction (MILCON) AAUNSECNAV, Washington, DC
13100	Financial Management Officer for Aircraft Procurement- Navy (APN) Appropriation AAUNSECNAV, Washington, DC
12260	Financial Management Officer for Ship Operations and Programs AAUNSECNAV, Washington, DC
12250	Financial Management Officer for Navy Industrial Fund (NIF) AAUNSECNAV, Washington, DC
12230	Navy Stock Fund (NSF) Section Head AAUNSECNAV, Washington, DC
12150	Financial Management Officer for Base Operations AAUNSECNAV, Washington, DC
42200	Real Property Maintenance Activities Project Manager Office of the Chief of Naval Education and Training, Pensacola, FL

00300	Executive Officer-Public Works Center San Diego, CA
00500	Executive Officer-Public Works Center Nav=1 Base Guam
00200	Executive Officer-Public Works Center Naval Base Norfolk, VA
30200	Equipment Management Department Head Naval Construction Battalion Center, Port Hueneme, CA
40650	Business and Financial Manager Naval Air Systems Command, Washington, DC
47250	Business and Financial Manager Naval Air Systems Command, Washington, DC
00600	Budget Officer Fleet Aviation Specialized Operational Training Group- Pacific Ship Training Detachment San Diego, CA
01320	Assistant Director, Programming and Budget Division Naval Supply Systems Command, Washington, DC
01330	Budget Officer-Navy Stock Fund Naval Supply Systems Command, Washington, DC
01400	Director, Operational Accounting Division Naval Supply Systems Command, Washington, DC
01200	Director, Programming and Budget Division Naval Supply Systems Command, Washington, DC
05400	Director, Transportation Budget Division Naval Supply Systems Command, Washington, DC
40100	Staff Supply Officer and Control Division Head Naval Oceanographic Systems Command-Pacific, Pearl Harbor, HI
41000	Director, Material Accounting Division Navy Aviation Supply Office, Philadelphia, PA
67100	Associate Chairman of Economics Department U.S. Naval Academy, Annapolis, MD
00200	Executive Officer-Public Works Center San Francisco, CA

00200	Executive Officer-Public Works Center Yokosuka, Japan
01130	Logistics Analysis Section Head (OP-801E) Office of the Chief of Naval Operations, Washington, DC
00200	Executive Officer-Public Works Center Naval Air Station Pensacola, FL
01300	Program Coordination and Evaluation Branch Head Naval Space Command, Washington, DC
51200	Assistant Public Works Officer Commander, Fleet Activity, Sasebo, Japan
10785	Assistant for Appraisal of Logistics Plans, Programs, Budget and Manpower/Training Division (OP-04JC) Office of the Chief of Naval Operations, Washington, DC
72161	Reserve Personnel Management Branch Head (OP-959C) Office of the Chief of Naval Operations, Washington, DC
06060	Reserve Personnel-Navy (RPN) Analyst (OP-120C3) Office of the Chief of Naval Operations, Washington, DC
72171	Operation and Maintenance-Navy (OPN) Reserve Management Branch Head (OP-959D) Office of the Chief of Naval Operations, Washington, DC
11186	RAF Programs and U.S. Flag Fleet Readiness (OP-423C) Office of the Chief of Naval Operations, Washington, DC
06074	Program and Manpower Analyst (OP-120C6) Office of the Chief of Naval Operations, Washington, DC
70020	FIS-RMS-ACOS (N7) Office of the Chief of Naval Technical Training, Memphis, TN
70060	Budgeting Branch Head (N71) Office of the Chief of Naval Technical Training, Memphis, TN
00300	Contracts/Trainer Software Support Activity/COMS/APN-6 Funds Manager (PMA205-4A) Naval Air Systems Command Detachment-Aviation Training Systems, Orlando, FL
05220	Business and Financial Manager Aegis Program Office, Washington, DC

37730	Business Manager/Business Administrator (PMS377E) Naval Sea Systems Command, Washington, DC
04100	Director, Training Department Naval Air Technical Training Center Lakehurst, NJ
00300	Flag Secretary Commander, Cruiser-Destroyer Group ONE
63220	Fiscal/Budget Requirements Branch Head Bureau of Naval Medicine, Washington, DC
09200	Associate Director for Plans, Budget, and Administration U.S. Naval Academy, Annapolis, MD
10010	Commanding Officer, Naval Reserve Financial Information Processing New Orleans, LA
10030	Executive Officer, Naval Reserve Financial Information Processing New Orleans, LA
00200	Executive Officer, Public Works Center NTC Great Lakes, IL
13140	Applications Systems Analyst Bureau of Naval Medicine, Washington, DC
13160	Developmental Systems Analyst Bureau of Naval Medicine, Washington, DC
01610	Facilities Support Analyst (OP-814H) Office of the Chief of Naval Operations, Washington, DC
24020	Deputy Financial Controller Supreme Allied Commander-Atlantic, Norfolk, VA
01700	Inventory Accuracy Officer Ships Parts Control Center, Mechanicsburg, PA
02700	Assistant Public Works Officer Naval Station Mayport, FL
04010	Assistant Public Works Officer Naval Shipyard Philadelphia, PA
02130	Assistant for Plans and Programs (G80P) Commander, Naval Security Group, Washington, DC
04010	Assistant Fublic Works Officer Norfolk Naval Shipyard, Portsmouth, VA

00300	Executive Officer-Public Works Center Naval Base Subic Bay, RP
00300	Executive Officer-Public Works Center Naval Base Pearl Harbor, HI
00500	Executive Officer-Public Works Center Naval Base Guam
32350	Business and Financial Manager Naval Air Systems Command, Washington, DC
00200	Executive Officer-Public Works Center Naval Base Norfolk, VA
09640	Internal Review Analyst Bureau of Naval Medicine, Washington, DC
02030	POM Officer-Facility Planning and Programming Naval Facilities Engineering Command, Alexandria, VA
11120	Deputy Director/Medical Bureau of Naval Medicine, Washington, DC
14120	Fiduciary Branch Head Bureau of Naval Medicine, Washington, DC
13260	Applications System Analyst Bureau of Naval Medicine, Washington, DC
11240	Deputy Director/Medical Bureau of Naval Medicine, Washington, DC
11320	Special Programs Branch Head Bureau of Naval Medicine, Washington, DC
13040	Developmental Systems Analyst Bureau of Naval Medicine, Washington, DC
13120	Systems Analyst Bureau of Naval Medicine, Washington, DC
65210	Budget Appropriation Coordination Branch Head Office of the Assistant Secretary of the Navy (Research, Development, and Acquisition), Washington, DC
65030	Director, Resources and Evaluation Office of the Assistant Secretary of the Navy (Research, Development, and Acquisition), Washington, DC
10053	Special Assistant AAUNSECNAV, Washington, DC

72030	Assistant/Staff Officer for Reserve Matters U.S. Department of the Navy-Staff Offices, Washington, DC
72050	Naval Reserve Analyst U.S. Department of the Navy-Staff Offices, Washington, DC
60300	Branch Head Office of the Naval Inspector General, Washington, DC
91230	Integrated Logistics Support Division Head/Staff Supply Officer Naval Sea Systems Command, Washington, DC
91080	Assistant Program Manager Naval Sea Systems Command, Washington, DC
91230	Business/Finance Management Division Head Naval Sea Systems Command, Washington, DC
00380	Resource Analysis and Financial Report Officer Commander-in-Chief U.S. Atlantic Fleet, Norfolk, VA
04500	Assistant Chief of Staff for Resources Management Commander, Naval Training Command-Atlantic, Norfolk, VA
00100	Commanding Officer Fleet Accounting and Disbursing Center-Atlantic, Norfolk, VA
10500	Program Objective Memorandum (POM) and Navy Training Plan (NTP) Coordinator Commander, Naval Surface Reserve Force, New Orleans, LA
09200	Assistant Public Works Officer Marine Corps Air Station, Iwakuni, Japan
03200	Assistant Public Works Officer Marine Corps Air Station El Toro, CA
02300	Assistant Public Works Officer Marine Corps Base Camp Pendleton, CA
05800	Budget and Fiscal Planning Officer Division of Naval Reactors, Washington, DC
41200	Assistant Public Works Officer Naval Support Activity, Naval District Washington, DC
05600	Logistics, Planning, and Fiscal Management Officer Division of Naval Reactors, Washington, DC

07000	Director, Financial Systems Design and Procedures Fleet Material Support Office, Mechanicsburg, PA
01300	Director, Navy Stock Fund Financial Division Fleet Material Support Office, Mechanicsburg, PA
10750	Special Assistant for Administration/Finance AAUNSECNAV, Washington, DC
11020	Assistant for Appropriations Matters AAUNSECNAV, Washington, DC
11040	Assistant Congressional Liaison AAUNSECNAV, Washington, DC
12150	Financial Management/Base Operations Officer AAUNSECNAV, Washington, DC
12230	Navy Stock Fund Section Head AAUNSECNAV, Washington, DC
12250	Navy Industrial Fund Financial Management Officer AAUNSECNAV, Washington, DC
12260	Financial Management Officer-Ship Operations and Programs AAUNSECNAV, Washington, DC
13100	Financial Management Officer, Aircraft Procurement-Navy (APN) Appropriation AAUNSECNAV, Washington, DC
13120	Financial Management Officer, Military Construction AAUNSECNAV, Washington, DC
13140	Financial Management Officer Research, Development, Testing and Evaluation (RDT&3) AAUNSECNAV, Washington, DC
13160	Financial Management Officer, Other Procurement-Navy (OPN) Appropriation AAUNSECNAV, Washington, DC
40010	Executive Assistant Office of the Assistant Secretary of the Navy for Financial Management, Washington, DC
14010	Deputy Director, Financial Control Division AAUNSECNAV, Washington, DC
11180	Financial Management Officer-Budget AAUNSECNAV, Washington, DC

01900	FCM Professional Training Officer Naval Postgraduate School, Monterey, CA
45955	Business and Financial Manager Naval Air Systems Command, Wasnington, EC
88678	OPN/RDT&E Budget Analyst (OP-120E5) Office of the Chief of Naval Operations, Washington, DC
02020	Budget Division Chief Health Sciences Education and Training Command, Rethesda, MD
00913	Accounting/Financial Information Processing Center (FIFC) Officer National Naval Medical Center, Bethesda, MD
82180	F siness and Financial Manager Surface Ship Weapon Systems Program Executive Office, Cruise Missiles Project and Unmanned Aerial Vehicles Joint Project, Washington, DC
04020	Facilities Construction/Services/Assistant Public Works Officer Naval Shipyard Long Beach, CA
01050	Associate Comptroller for Planning Combat Systems Programs and for Financial Systems Naval Sea Systems Command, Washington, DC
83400	Deputy for Business, Financial, and Resources Management Naval Air Systems Command Project Management Office, Washington, DC
01050	Associate Comptroller for Planning Combat Systems Programs and for Financial Systems Naval Sea Systems Command, Washington, DC
83400	Deputy for Business, Financial, and Resources Management Naval Air Systems Command Project Management Office, Washington, DC
50725	Business and Financial Manager Naval Air Systems Command Project Management Office, Washington, DC
72800	Deputy Program Manager, Business and Firancial Management Naval Air Systems Command Project Management Office, Washington, DC

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5.4 <b>1</b> * y	Head of Frequence and Pudget (OP-330) (Continue of the Chief of Naval Operations, Washington, IC
, 40.35	Operations and Maintenance Navy (OMN) Appropriation Manager (OP 330E) Office of the Chief of Naval Operations, Washington, IT
18630	Weapons Progurement Navy (WEN) Appropriation Manager of 33002) Cffice of the Chief of Naval Operations, Washiraton, IS
28625	OPN Appropriation Manager (OP-330C) Office of the Chief of Naval Operations, Washington, UT
0820	Program Objective Memorandum (POM) Coordinator (CP-3327) Office of the Chief of Naval Operations, Washington, DC
10200	Executive Officer Public Works Center Sau Francisco, CA
1220	Executive Officer Public Works Center Yokosuka, Japan
00200	Executive Officer Public Works Center Naval Air Station Pensacola, FL
00,700	Executive Officer Public Works Center NTC Great Lakes, IL
P(11.1)()	Flight Budget Director Commander, Naval Reserve Force, New Orleans, LA
(f) <b>(</b> ()	Executive Officer Public Works Center San Diego, CA
10200	Equipment Management Department Head Naval Construction Battalion Center, Port Hueneme, JA
11000	Surface Forces Program Budget Officer Commander, Naval Surface Reserve Force, New Orleans, LA
75700	Base Support Director Commander, Naval Reserve Force, New Orleans, LA
75900	Director, Reserve Personnel-Navy (RPN) Budget Division Commander, Naval Reserve Force, New Orleans, LA

00760	Budget Analyst Commander, Naval Intelligence Command, Washington, DC
10010	Commanding Officer FleetAccounting and Disbursing Center-Pacific, San Diego, CA
70010	Assistant Chief of Staff for Financial Management Commander, Naval Computer and Telecommunications Command, Washington, DC
#6020	Business Administration/Head of Plans and Programs Program Executive Office for Space, Communications, and Sensors, Washington, DC
80030	Business Administration/Director, Plans and Programs Office Space and Naval Warfare (SPAWAR) Systems Command, Washington, DC
31110	Financial Policy and Accounting Branch Head Commander in Chief, U.S. Pacific Fleet, Pearl Harbor, HI
80200	Assistant Public Works Officer U.S. Naval Support Activity Naples, Italy
60030	Assistant Public Wo :s Officer Naval Air Station Sigonella, Sicily
04545	Fiscal/Finance Manager Space and Naval Warfare Systems Command-Space Technology Programs, Washington, DC
05200	Planning and Programs Staff Officer Commander, U.S. Naval For es Central Command, Tampa, FL
05020	Resources Management Department Head Noval Medical Data Service Tenter, Bethesda, MD
02611	Program Analyst Office of the Chief of Naval Operations, Washington, DC
14450	Financial Analyst Naval Medical Data Service Center, Bethesda, MD
90160	Internal Review Ana'yst Bureau of Naval Medicine, Washington, DC
00927	Accounting/Health Cost Analyst National Naval Medical Center, Bethesda, MD

90270	Internal Review Analyst Bureau of Naval Medicine, Washington, DC
40060	Staff Material Officer Commander, Naval Surface Force Pacific Fleet, San Diego, CA
30730	Business and Financial Manager Naval Sea Systems Command, Washington, DC
31236	Business and Financial Manager (PMS312F) Naval Sea Systems Command, Washington, DC
72300	Financial Management Branch Head Naval Military Personnel Command, Washington, DC
07070	RDT&E Appropriation Branch Head Seawolf Submarine Program Manager, Washington, DC
04010	Facilities Construction/Services Officer/Assistant Public Works Officer Portsmouth Naval Shipyard, NH
10700	Business and Financial Manager Program Executive Officer for Tactical Aircraft Programs, Washington, DC
02640	Senior Consultant Naval Audit Service Headquarters, Falls Church, VA
01125	Program and Resource Branch Head Commander, Naval Security Group Headquarters, Washington, DC
60400	Director, Financial Management and Support Services Navy International Programs Office for Foreign Military Sales, Washington, DC
04010	Assistant Public Works Officer Charleston Naval Shipyard/Station, SC
00135	Medical Department Staff/Health Care Operations Naval Audit Service Headquarters, Falls Church, VA
01050	Assistant for Plans, Programs, Budget, and Resources Commander, Naval Security Group Headquarters, Washington, DC
40010	General Supply Officer Naval Oceanographic Office, Stennis Space Center, MS

80010	Supply/Fiscal Department Head Fleet Numeric Oceanography Center, Monterey, CA
04010	Facilities Construction/Services Officer Puget Sound Naval Shipyard, WA
04003	Facilities Construction/Services/Assistant Public Works Officer Mare Island Naval Shipyard, CA
72146	Plans and Manpower Program Branch Head (OP-958D) Office of the Chief of Naval Operations, Washington, DC
07075	Assistant Programming and Budget Manager (OP-02M1) Office of the Chief of Naval Operations, Washington, DC
07070	Assistant for Plans, Programs, and Budget (OP-02M) Office of the Chief of Naval Operations, Washington, DC
12600	Assistant Deputy Program Manager for Business and Financial Management Program Executive Office, Tactical Aircraft Programs, Washington, DC
36700	Deputy for Business and Financial Management Program Executive Office, Air Anti-Submarine Warfare Programs, Washington, DC
07982	Operations and Maintenance-Navy (OMN) Appropriation Program Manager (OP-301F) Office of the Chief of Naval Operations, Washington, DC
07978	Programs Coordinator (OP-301) Office of the Chief of Naval Operations, Washington, DC
07994	Weapons Manager (OP-302W) Office of the Chief of Naval Operations, Washington, DC
07990	Other Procurement-Navy (OPN) Appropriation Program Manager Office of the Chief of Naval Operations, Washington, DC
12040	Assistant Director, Public Works Department Naval Education and Training Command, Newport, RI
14020	Director, Comptroller/Supply Department Naval Education and Training Command, Newport, RI
03370	Fiscal Management Branch Head Commander, Naval Military Personnel Command, Washington, DC

03380	Enlisted Fiscal Manager Commander, Naval Military Personnel Comman , Washington, DC
03390	Officer Fiscal Manager Commander, Naval Military Personnel Command, Washington, DC
31200	Deputy Program Manager for Business and Financial Management Naval Air Systems Command Project Management Office, Washington, DC
42600	Deputy Program Manager for Business and Financial Management Naval Air Systems Command Project Management Office, Washington, DC
49600	Deputy Program Manager for Business and Financial Management Naval Air Systems Command Project Management Office, Washington, DC
48600	Deputy Program Manager for Business and Financial Management Naval Air Systems Command Project Management Office, Washington, DC
05765	Assistant Education Resources Analyst (OP-117E21) Office of the Chief of Naval Operations, Washington, DC
29750	Program Cost Analysis Officer Naval Air Systems Command, Washington, DC
29550	Program Cost Analysis Officer Naval Air Systems Command, Washington, DC
39688	Business and Financial Manager Naval Sea Systems Command, Washington, DC
07050	D.rector of Business and Financial Management Nival Sea Systems Command, Washington, DC
39385	Bisiness and Financial Manager Nival Sea Systems Command, Washington, DC
30300	Assistant Program Executive Officer for Business and Financial Management Program Executive Office, Air Anti-Submarine Warfare Programs, Washington, DC

11400	Deputy Program Manager for Program Control Program Executive Office for Tactical Aircraft Programs, Washington, DC
12500	Deputy Program Manager, Business and Financial Manager Program Executive Office for Tactical Aircraft Programs, Washington, DC
04282	Director of Military Manpower Budget Development, Costing, and Accounting Commander, Naval Military Personnel Command, Washington, DC
31410	Future Plans and Programs Head Commander-in-Chief, U.S. Pacific Fleet, Pearl Harbor, HI
31420	POM Development Officer Commander-in-Chief, U.S. Pacific Fleet, Pearl Harbor, HI
31430	Assistant Programs Officer Commander-in-Chief, U.S. Pacific Fleet, Pearl Harbor, HI
09500	Contracts Liaison Commander, Naval Surface Reserve Force, New Orleans, LA
14201	Comptroller Naval Air Station Moffett Field, CA
08100	Comptroller Naval Air Station Corpus Christi, TX
02010	Director of Programs and Comptroller Naval Facilities Engineering Command, Alexandria, VA
28200	Comptroller Naval Air Station Alameda, CA
28200	Comptroller Naval Air Stat'on Barbers Point, HI
04000	Comptroller Naval Air Station North Island, CA
28200	Comptroller Naval Air Station Whidbey Island, WA
01200	Comptroller Naval Support Force Antarctica
01920	Assistant Comptroller Commander, Naval Air Force-Pacific, San Diego, CA

00850	Comptroller Naval Supply Center, Puget Sound, WA
01641	Comptroller Naval Supply Center, San Diego, CA
03100	Comptroller Naval Supply Center, Jacksonville, FL
09010	Comptroller Submarine Base Pearl Harbor, HI
28020	Comptroller Commander, Melium Attack Tactical Electronic Warfare Wing-Pacific, NAS Whidbey Island, WA
01600	Comptroller Ships Parts Control Center, Mechanicsburg, PA
52000	Force Comptroller Commander, Naval Submarine Force-Pacific, Pearl Harbor, HI
20010	Comptroller Naval Air Station Cubi Point, RP
00510	Comptroller Naval Supply Center, Charleston, SC
00781	Deputy Comptroller Naval Ordinance Station, Louisville, KY
28200	Comptroller Naval Air Station Lemoore, CA
21500	Comptroller Naval Air Station Miramar, CA
04100	Comptroller Ship Repair Facility, Yokosuka, Japan
05400	Comptroller Ship Repair Facility, Subic Bay, RP
01050	Director, Budget and Accounting Division, Planning and Comptroller Department Naval Supply Depot, Subic Bay, RP
40050	Comptroller Navy Aviation Supply Office, Philadelphia, PA

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00320	Comptroller Naval Aviation Depot, Alameda, CA
00310	Comptroller Fleet Combat Direction Systems Activity, Dam Neck, VA
04100	Comptroller Naval Aviation Depot, Pensacola, FL
00425	Comptroller Naval Air Station Norfolk, VA
80140	Comptroller Navy Environmental Health Center, Norfolk, VA
00907	Comptroller Naval Hospital Portsmouth, VA
00910	Comptroller Naval Hospital Bremerton, WA
00425	Comptroller Naval Air Station Norfolk, VA
38200	Assistant Dean of Faculty and Finances/Comptroller U.S. Naval Academy, Annapolis, MD
81180	Business and Financial Manager Program Executive Office, Cruise Missiles Project and Unmanned Aerial Vehicles Joint Project, Washington, DC
06000	Comptroller Naval Shipyard Long Beach, CA
00150	Comptroller Navy Center for Tactical Systems Interoperabilty, San Diego, CA
14020	Dep::y Comptroller Bureau of Naval Medicine, Washington, DC
14700	Force Comptroller Commander, Naval Submarine Force-Atlantic, Norfolk, VA
04000	Comptroller Submarine Base New London, CT
07200	Comptroller U.S. Naval Academy, Annapolis, MD

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00310	Comptroller Fleet Combat Direction Systems Activity, Dam Neck, VA
11100	Comptroller/District Supply Officer Naval District Washington, DC
01000	Director, Comptroller Department Fleet Material Support Office, Mechanicsburg, PA
00920	Comptroller National Naval Medical Center, Bethesda, MD
00080	Comptroller Naval International Logistics Command, Philadelphia, PA
38200	Assistant Dean for Faculty and Finances/Comptroller U.S. Naval Academy, Annapolis, MD
02010	Director of Programs and Comptroller Naval Facilities Engineering Command, Alexandria, VA
07030	Budget Officer Commander-in-Chief, U.S. Naval Forces-Europe, London, England
51000	Comptroller Naval Supply Depot, Yokosuka, Japan
70100	Comptroller Naval Support Activity, Naples, Italy
06510	Comptroller/Fiscal Officer Naval Air Station Sigonella, Sicily
06020	Comptroller/Fiscal Officer Naval Air Station Pensaccla, FL
20200	Comptroller Naval Medical Research Institute, Bethesda, MD
40100	Comptroller Naval Medical Logistics Command, Ft. Detrick, MD
72000	Comptroller Commander, Naval Surface Force-Pacific, San Diego, CA
00922	Comptroller National Naval Medical Center, Bethesda, MD
00905	Comptroller Naval Branch Hospital, Sigonella, Sicily

06020	Comptroller/Head of Resources and Logistics San Francisco Medical Command, Oakland, CA
00905	Comptroller Naval Hospital, Rota, Spain
00920	Comptroller U.S. Naval Observatory, Washington, DC
00920	Comptroller Naval Supply Center, Oakland, CA
24240	Instructor-Business Administration Naval Postgraduate School, Monterey, CA
00600	Instructor Defense Resource Management Education Center, Monterey, CA
04130	Instructor Delense Systems Management College, Ft. Belvoir, VA
08500	Management Professor Naval War College, Newport, RI
19500	Instructor/Logistics Head Naval War College, Newport, RI
67200	Instructor-Economics U.S. Naval Academy, Annapolis, MD
18200	Financial Management Instructor Air Force Institute of Technology, Wright-Patterson AFB, OH
00920	Instructor-Systems and Logistics Air Force Institute of Technology, Wright-Patterson AFB, OH
13040	Instructor Naval School of Health Sciences (NSHS) Bethesda, MD
13080	Instructor-Fiscal and Supply Management NSHS Bethesda, MD
00340	Fleet Comptroller Commander-in-Chief U.S. Atlantic Fleet, Norfolk, VA
00340	Fleet Comptroller Commander-in-Chief U.S. Atlantic Fleet, Norfolk, VA

00510	Comptroller Naval Postgraduate School, Monterey, CA
00820	Comptroller Health Sciences Education and Training Command, Bethesda, MD
00902	Comptroller Naval Hospital Portsmouth, VA
00905	Comptroller Naval Hospital San Diego, CA
00905	Comptroller National Naval Medical Center, Bethesda, MD
00905	Assistant Comptroller Naval Hospital Portsmouth, VA
01910	Force Comptroller Commander, Naval Air Force-Pacific, San Diego, CA
00905	Comptroller Naval Hospital Oakland, CA
06001	Comptroller Norfolk Naval Shipyard, VA
00910	Comptroller/Financial Management Naval Hospital San Diego, CA
06001	Comptroller Naval Shipyard Puget Sound, WA
00915	Comptroller National Naval Medical Center, Bethesda, MD
06001	Comptroller Naval Shipyard Portsmouth, NH
01500	Comptroller/Director, Logistics Division Navy Recruiting Command, Washington, DC
06002	Comptroller Naval Shipyard Pearl Harbor, HI
06001	Comptroller Mare Island Naval Shipyard, CA
06001	Comptroller Charleston Naval Shipyard, SC

07010	Force Comptroller Commander-in-Chief, U.S. Naval Forces-Europe, London, England
07100	Comptroller Commander, Naval Base Norfolk, VA
07100	Comptroller Commander, Naval Base Norfolk, VA
10040	Deputy Comptroller Bureau of Naval Medicine, Washington, DC
10100	Comptroller Naval Air Engineering Jenter, Lakeburst, NJ
10140	Deputy Comptroller Bureau of Naval Medicine, Washington, DC
11010	Comptroller Space and Warfare Command Headquarters, Washington, DC
24010	Financial Comptroller Supreme Allied Commander-Atlantic, Norfolk, VA
11020	Comptroller Naval Healthcare Support Office (HCSO) San Diego, CA
11020	Comptroller/Resources Head HCSO London, England
11020	Comptroller HCSO Barbers Point, HI
11020	Comptroller HCSO Jacksonville, FL
11020	Comptroller HCSO Norfolk, VA
22080	Project Officer/Comptroller Naval School of Health Science, Bethesda, MD
31010	Fleet Comptroller Commander-in-Chief, U.S. Pacific Fleet, Pearl Harbor, HI
10730	Assistant Director NCB/OP-82 AAUNSECNAV, Washington, DC
11010	Head of Appropriation Matters AAUNSECNAV, Washington, DC

13030	Deputy Director of Investments and Development AAUNSECNAV, Washington, DC
02609	Deputy Director of Resources Office of the Chief of Naval Operations, Washington, DC
02610	Head of Resource Planning Office of the Chief of Naval Operations, Washington, DC
11220	Head of Control Branch/Comptroller Bureau of Naval Medicine, Washington, DC
72250	Director, Resource Management Division Naval Military Personnel Command, Washington, DC
06380	Financial Manager (OP-136) Office of the Chief of Naval Operations, Washington, DC
07974	Head of Surface Warfare Programs and Budget (OP-30) Office of the Chief of Naval Operations, Washington, DC
05990	Shore Training and Education Resources Section Head (CP-117E) Office of the Chief of Naval Operations, Washington, DC
06053	Manpower and Personnel Programs Head/Budget Analyst Ofrice of the Chief of Naval Operations, Washington, DC
60090	Director, Resource Management Office (Assistant for Management and Support) Commander, Naval Military Personnel Command, Washington, DC
06051	Program Development and Coordination Branch Head Office of the Chief of Naval Operations, Washington, DC
00370	Resource Management Officer Commander-in-Chief, U.S. Atlantic Fleet, Norfolk, VA
02800	Financial Management Branch Head (OP-940E) Office of the Chief of Naval Operations, Washington, DC
07070	Resource Planning Coordinator Office of the Chief of Naval Air Training, Corpus Christi, TX
02105	Flight Program Development Office of the Chief of Naval Air Training, Corpus Christi, TX
10730	Assistant Director NCB/OP-82 AAUNSECNAV, Washington, DC

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11010	Head of Appropriation Matters AAUNSECNAV, Washington, DC
13030	Deputy Director of Investments and Development AAUNSECNAV, Washington, DC
93400	Director, Fleet Modification Program Management Division (Comptroller) Naval Sea Systems Command, Washington, DC
11020	Assistant for Execution Control Bureau of Naval Medicine, Washington, DC
13020	Director, Fiscal Systems Division Bureau of Naval Medicine, Washington, DC
50600	Director, Per Diem, Travel, and Transportation Allowance Committee (PDTATAC) Staff Special Boards and Committees, Per Diem, Travel and Transportation Allowance Committee, Washington, DC
50700	Assistant Director, PDTATAC Staff Special Boards and Committees, Per Diem, Travel and Transportation Allowance Committee, Washington, DC
17550	Joint Chiefs of Staff Exercise Program Manager-Joint Staff Joint Chiefs of Staff, Washington, DC
72010	Program Manager for Weapons Systems/Programming Division Head Commander, Naval Computer and Telecommunications Command, Washington, DC
05010	Operations Manager Aegis Program Office, Washington, DC
72156	Director, Financial Management Division (OP-959) Office of the Chief of Naval Operations, Washington, DC
00370	Resource Management Officer Commander-in-Chief, U.S. Atlantic Fleet, Norfolk, VA
01020	Deputy Director, Management Support Division Naval Space Command, Dahlgren, VA
11252	Program/Budget Coordinator Branch Head (OP-433) Office of the Chief of Naval Operations, Washington, DC
06076	POM/Budget Coordination Section (OP-120D) Office of the Chief of Naval Operations, Washington, DC

06078	Training Program/Budget Analysis Section Head Office of the Chief of Naval Operations, Washington, DC
06204	Assistant for Military Personnel-Navy (MPN) Appropriation Execution and Coordination (OP-13H) Office of the Chief of Naval Operations, Washington, DC

# APPPENDIX B

	bsc	echeion	nubcat	desig	rank	3640	.,	12	ធ	14	15	20	17	2.0	19	110		:12	113
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7	13120	3	a	5100	n	p	1	1	1	0	1	0	0	1	0	1	0	0	0
- 3	13100	3	a	1000	h	p	1	1	1	0	1	0	0	1	0	1	۱٥	0	ا ن
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10	12250	3	a	1000	h	٥	1	1	1	0	1	0	١٥	1	0	1	اه	0	ŋ
- 11	12230	2	a	3100	n	ρ	1	1	1	0	1	0	0	1	٥	:	0	0	0
;2	12150	3	a	5100	h .	ρ	1	-1	1	0	1	0	0	1	٥١	1	0-1	اد	٥
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1.1	300	5	a	5104	g	p	1	1	1	1	1	0	1	0	0	0	1	1	0
15	500	5	a	5100	n	2	1	1	1	1	1	٥	1	0	0	.0	1	1;	<u> </u>
16	200	5	a	5104	9.	ا م	1	1	1	۱.	1	0	1	0	0	0	1	1	<u> </u>
17	30200	5	a	5100	1	ρ	1	1	1	1	1	0	1	٥	0	1	1	1	)
18	40650	3	a	3100		ρ	1		1	1	1	0	0	0	01	0	0	0	0
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22	1330	3	<b>a</b>	3100	n	0	1	1	'	1	1	0	0	1	0	0	0	١٥	0
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25	5400	3	<u> </u>	3100	h	٥	0	1	1	1	1	0	0	1	01	01	0	١٥١	2
26	40100	5	a i	3100		<u> </u>	0	1]	01	0	0	0	0	0	0	0	0	0	91
27	41000	5		3100	n	ا م	0	1	0	0	1	01	1	0	0	01	0	0	)
28	67100	5	<u> </u>	1000	n	ρ.	1	0	1	1	0	0	0	0	0	0	1	0	0
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30	200	5		5100	<del></del>	<u> </u>	-11	- 1		<u> </u>	0	0	-1	0	0	<u> </u>	-11	1	
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32	200	5		5100	<del></del>	P	1	1	-11	11	-11		11		0	0	01	١	
33	1300	3	<del></del>	1000   1		ρ	1	-1	<u> </u>	<u>: </u>	11	-1	-11	01	0	<u> </u>	11	3	)l
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35	10785	2	<u>-</u>	:000		<u> </u>	0	11	<u> </u>	01	<u> </u>	0	ᅄ	0	01	0	1	31	0.
36	72161	2	<del></del>	1000   1		<u> </u>	1	1	1	1	<u>! </u>	0	-11	0	0	0	1	0	
37	5060 l	21		1000   1		<del></del>	4	-11-	11	1	11	0	0	0	0	0	0	0	01
38	72171	21		1000   1			11	1	11	11	11	0	1	0	0	0	1	0	0
39	11186	21		1050   1		-	1	1	+	1	01	01	0	1	0	01	0	0	-9
-10	2074	2   0		1000   1		<u> </u>	1	1	1	1	0	0	1	0	01	0	01	0	0
41	70020 i	310	<u> </u>	3104	3   1	-	1	1	1	1	1	3	1	0	0	0	0	0	0

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-6	1100	5	o .	1300	1	٥	o l	1	0	0	၁	0	٠,	٥	0	٥	0	3	0 1
47	300	•	a	1110	t	D	1	1	1	1	0	٥	1	0	0	0	၁	o l	3.
48	<b>53220</b> I	3	a	2300	ı	٥	1	ı	1	1	1	0	1	0	٥١	. с	1	0	0 (
19	9200	5	a	1000	ī	٥	,	1	1	1	1	0	၁	0	٥	0	.1	0	0
50	10010	5	u	1000	h	D	0	1	0	0	0	0	1	1	0	0	1	0	0
51	10030	5	a	3100	ı	P	0 !	1	0	a	э	0	1	1	0	0	1	0	3
52	200	5	a	5100	h	٥	1	1	1	1	1	3	1	0	0	o	. 1	1	0
53	13140	3	a	2300	1	p	1	1	1	1	1	0	1	0	0	اد	1	0	0
54	13160	3	a	2300	1	۵	1	1	1	1	1	0	1	0	0	0	1	0	2
55	1610	2 :	a	5100	ı	p	0 1	1	0	0	٥	0	٥١	٥١	٥١	0	э	٥	0
56	24020	3	a	3100	h	P	1	1	1	1	1	0	1	1	0	0	1	0	0
57	1700	5	a	3100	1	ρ	o	1	0	0	0	0	1	٥	0	0	1	1	0
58	2700	5	a	5100	i	p	1	1	1	1	1	0	1	0	0	٥١	1	1	0
59	4010	5	3	5100	ı	٥	1	1	1	1	1	0	1	0	١٥	0	1	9	0
-50	2130	3	a	1610	)	٥	1	1	1	1	1	1	0	0	٥	0	- 1	0	0
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52	300	5	a	5100	n	٥	1	<u>'</u>	1	- '	1	0	- 1	0	0	0	- 1	1	0
33	300	5	٥	5100	n	ρ	1	1	1		- 1	0		0	0	0	_ 1	1	0
04	500	5	a	5100	n	p	1		1	- '	1	0	- 1	0	0	0	1	11	2
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- 36	200	5	a	5104	g	p	1	1	1	1	1	0	1	0	0	0	1	0	_ 0
37	9640	3	a	2300	h	D	1	1	1	1	1	اه	1	0	0	0	1	0	J
58	2030	3	a	5100	h	Р	1	1	1	1	!	0	1	0	0	9	1	1	_ 0
69	11120	3	a	2300	<u> </u>	Р	1	1	1	1	1	0	1	0	0	٥١	11	0	<u></u>
70	14120	3	a	2300	<u>'</u>	Р	1	1	-1	-1	-1	0	1	0	0	0	1	0	3
7	13260	3		2300		0	1	- 1	- 1	1	1	0	-1	0	0	0	1	0	0
72	11240	3		2300		<u> </u>	1	1	1	-	1	0	_!	0	0	0	1	0	<del></del> ¦
73	11320	3		2300		٥	11	4	-1	1	11	이	1	0 !	0	0	1	0	- 0)
74	13040	3		2300		<u> </u>	-!	1	1	1	1	01		01	01	0	- 11	01	0 !
75 1	13120	3	<u> </u>	2300		0	1	1	1	11	11	0	-11	0	0	0	1 !	01	0
76	65210	21	<del></del>	1000		<u>-  </u>	<u> </u>	11	11	11	11	01	11	01	0	0		0	0
77	55030	2		1000		ρ	11	;	1	1	1	0	1	01	01	이	11	0	0
78	10053	3		1000	<del></del>	<u> </u>	01	1	0	01	1	01	0	0	01	0	11	0	- 1
79	72030	21		1000		ρ	1	1	1	11	11	اد	1	11	2	01		0	3
30	72050	21		1000		<u> </u>	1	1	1	1	11	0	1	11	0	2	11	01	-3
31	50300	1	<del></del>	1050	<u>_</u>	0 !	0	0	0	01	1	0	0	- 1	0	0	11	0	-
32	91230	3	a l	3100	ח	ם	1	11	1	1	1	0	1	0	0	0	1	0	<u> </u>

	bsc	echeion	subcat	Desig	rank	2000	5	12	ង	:4	15	1 56	17	sa l	:9	s10	\$11	s12	113 j
33	91080	3	3	1 3100	i i	į p	1	1	1	1	1	3	1	J	0	ا د	i I	2	) ·
34	1 21230 1	3	l a	3100	h	ļ p	1	1	1	1	1	3	1	0	۱ د	οĺ	;	21	3 :
35	380	3	يدا	3100	n	٥	1	1	1	1	j :	0	1	0	0	9	1	ا ن	3
36	4500 l	5	la ·	1110	h	۵	1	1	1	1	1	0	1	0	0	0	;	3	0
37	:00	5	a	3104	9	p	1	1	1	1	1	0	1	2	o i	σi	1	1	0
38	10500	4	a	1110	ı	p	1	0	1	0	1	0	0	1	0	0	1 !	3	0 !
39	7200	5	a	5100	1	ρ	1	1	1	1	1	٥	3	0	0	0	1	0 [	<b>3</b>
90	3200	5	a	5100	1	۵	1	1	1	1	1	ا د	0	0	0	0	;	၁	91
91	2300	5	a	5100	1	p	1	1	1	1	1	0	0	0	0	01	1	0	2
65	5800	3	a	3100	1	۵	1	1	1	1	1	0	1	0	0	် ၁	1	1	0
93	41200	5	a	5100	n	ρ	1	1	1	1	1	0	o i	0	0	0	0	0	0.1
94	5600	3	a	3100	h	۵	1	1	1	1	1	اه	1 ]	٥١	0	9	1	1	3
95	7000 İ	5	g.	3100	n	ລ	اه	1	0	0	0	0	1	0	0	o i	0	0	0 !
96	1300	5 أ	a	3100	1	ρ	0	1	1	1	0	· 3	1	اه	οį	0	0	0	0
97	10750	3	a	1000	h	ָ מ	1	1	1	1	0	0	0	0	0	0	1	0	0 1
98	11020	3	0	1000	h	ρ	٥	1.	1	0	1	١٥	١٥	1	0	0	1	01	0
99	11040	3	g .	1050	ħ	ρ	0	1	1	0	1	0	۱٥	1	0	01	1	0	3
100	12150	3	a	5100	n	ρ	1	1	1	0	1	٥	0	0	0	0	1	0	0
101	12230	3	a	3100	h	٥	1	1	1	0	1	٥	0	0	0	oi	1	0	<u> </u>
102	12250	3	a l	1000	n j	P	1	1	1	0	.1	0	0	0	0	٥į	1	0	0
103	12260	3	a	1110	n	p	1	1	۱	0	1	0	0	1	١٥	0	1	0	0
104	13100	3	a i	1000	n	0	1	1	1	0	1	٥	0	0	٥İ	0	1	01	0
105	13120	3	<b>a</b>	5100	n	ρ	1	ᆜ	1	اه	1	٥١	0	1	0	0	1	اه	0
106	13140	3	a	1000	n	p	1	1	1	0	1	0	0	9	0	0	11	0	0
107	13160	3	<u> </u>	1000	<u> </u>	0	11	1	1	01	1	0	01	0	0	0	11	ا د	0
:08	40010 i	3	<u>a</u>	1000	g	ρ	1	1	11	1	11	1	1	0	0	0	1	1	0
100	14010	3	<u>a</u>	3104	3	0	1	91	0	0	1	0	0	01	0	0	1	1	0
110	11180	3	a	1000		ا م	1	1	1	9	1	0	0	0	0	0	1	0	0
111	1900	5	•	1000		<u> </u>	1	긔	1	01	1	0	11	0	01	٥١	اد	0	0
112	45955	3	a	3100   1		0	1	刂	1	0	1	0	1	0	0	0	0	0	0 1
113	38678	5	a	1000	1	9	1	1	1	1	1	1	0	0	0	0	1	p	· 0
114	2020	3 (	<u> </u>	2300	!	0	1	.4	1	1	1	0	1	0 1	0	0	1	91	3 [
115	910	5	<del>a</del>	2300   1	11		1	긔	1	1	1	0	1	0	01	0	1	d I	0
116	52180	3   4	3	3100   1		,	1	1	1	1	1	0	0	0	0	01	1	o\i	0 1
117	4020 (	5   4	<b>3</b>	5100 1		<u> </u>	1	1	1	1	빞	0	1	0	0	٥١	1	0)	2
118	:050	3 (		1000   0	,	-	1	1	1	1	1	0	0	0	0	اد	1	01	0 1
119	53400	310	<b>1</b>	5100 h		>	1	1	11	1	1	0	0	1	01	۱٥	1	0	0
120	1050	310	3	1000   0	1 10	<b>)</b>	1	1	1	1	1	0	01	01	01	0	1	او	0
121	33400	3   0		3100 l h	C	•	1	1	1	1	1	0	01	1	0	٥İ	1	0	2
122	50725	310		3100   h	6	)	0	1	٥l	0	1	01	0	١٥	0	0	0	0	0
123	72800	3   0	,	3100   h	p	<u> </u>	٥١	11	٥	0	1	0	1	1	0	0	oi	0	0

	osc	echelon	subcat	dend	rank	code	11	:2	ı	:4	15	l so	57	28	19	110	s11	s12	113 }
124	35500	3	0	3100	h	<b>D</b> .	) 3	1	0	0	1	3	1	0	Э	0	οi	01	0 1
125	3615	2	a	1110	l g	D	1	t	1	1	1	0	0	,	0	01	1	0	0.
126	9635	2	a	1110	h	٥	1	1	1	1	1	0	0	1	0	0	11	0	01
127	9630	2	a	1110	h	0	1	1	1	1	1	0	0	1	0	0	1	0	0
:28	3625	2	a	1110	h	۵	1	1	1	1	1	٥	0	1	0	0	ı i	0	<b>)</b> :
129	3620	2	1 0	1110	n	٥	1	1	1	1	1	0	0	1	0	0	1	0	3 1
30	200	5	a	5100	n	٥	1	1	1	1	١	٥	1	Q.	0	اه	1	1	0
131	200	5	a	5100	h	۵	1	1	1	1	,	0	1	٥	0	0	1	1	0 1
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133	200	5	a	5100	n	۵	1	1	1	1	7	0	1	0	0	0	1	1 i	0
134	75600	3	a	1300	n	p	1	1	1	1	1	0	1	0	0	0	. 01	0	3
:35	300	5	a	5104	a	p	1	1	1	1	1	0	1	0	0	0	1	T	3
136	30200	5	a	5100	ı	ρ	1	1	1	1	1	2	1	0	0	01	11	$\neg \overrightarrow{\Pi}$	2
137	11000	4	a	1110	ı	p	1	1	1	1	1	0	1	1	٥	0	oi	σi	0
:38	75700	i	a	1000	ח	۵	1 .	1	1	1	1	0	1	1	0	٥	اد	0	2
:39	75900	3	a	1050	h	۵	1	1	1	1	1	0	1	0	0	3	01	oi	2
140	760	3	a	1630	h	ρ	1	1/	1	7	1	0	1	0	0	0	oi	01	0
'41	10010	5	æ	3100	a	D	0	1	0	0	1	0	1	0	0 !	0	ol	2	0
142	70010	3	0	3100	9	p	1	1	1	1	1	1	1	0	0	0	0	0	0
143	46020	3	a	3100	1	٥	٥	1	0	0	1	1	1	0	0	0	0	t	0
144	90030	3	a ,	3100	'n	ρ	0	1	1	1	1	0	1	٥	٥	0	0	0	0
:45	31110	3	a	3100	n	ρ	0	1	1	1	1	u	0	1	0	3	0	0	0
:46	50200	5	a	5100	1	۵	٥	1	1	1	1	0	0	0	a l	0	0	9	3
147	20030	5	a	5100	ı	٥	1	٥	1	1	0	٥	0	0	1	0	ol	0	0
148	4545	3	a	1000	h	ρ	0	a	1	1	0	0	0	0	- 1	0	0	0	3
149	5200	3	0	1050	h	ρ	1	0	1	1	0	0	0	0	0	0	0	0	9
150	5020	5	a	2300	1	P	1	1	1	1	1	0	1	0	0	0	1	1	0
151	2611	2	a	2300	n	ρ	1	1	1	1	1	0	1	0	0	9	1	1	2
152	14460	5	a	2300	1	p	1	1	1	1	1	0	1	0	0	0	1	1	0
153	90160	3	a	2300	n	p	1	1	1	1	1	0	1	0	0	0	1	1	a
154	927	5	a	2300	1	ρ	1	1	1	1	1	0	1	0	0	0	1	1	a
155	90270	3	a	2300	1	ρ	1	1	1	1	1	0	1	0	0	0	1	1	<b>a</b>
156	40060	4	a	1000	1	ρ	1	1	1	1	3	٥١	0	اه	١٥	01	0	oi.	0
:57	30730	اد	a l	3100	ı	۵	1	1	1	1	٥١	0	1	0	0	01	0	3	<u> </u>
158 (	31236	3	a I	3100	h	0	0	1	0	0	0	0	ij	0	1	0	0;	0	
:59	72300	3	a	1000	h	۵	1	1	1	1	1	0	1	٥	0	0		1	9
160	7070	3	a	3100	.	٥	1	1	1	1	1	0	1	0	0	0	1	٥١	
161	4010	5	0	5100	h	ا م	0	1	0	0	01	0	0	0	1	٥l	1	0	0
162	10700	3	a	3100	1	p	0	1	1	1	01	0	0	0	1	١٥	1	0	2
163	2640	3	a	3100	ח ו	ا م	0	3	0	0	0	0	0	0	0	0	0	3	01
164	1125	3	a l	1610	1	0	1	1	1	1	٥١	0	0	0	0	0	0	0	0

	bsc	echelon	<b>NOCOT</b>	2000	ONK	1:000	1 51	12	1 2	:4	1.5	مدا	1,7	:8	10	110	<b>311</b>	1.2	:13
165	50400	5	a	3100	ĺn	l D	. 1	1	1 1	1 1	1 1	: 3	o o	1 )	i oi	3	01	<b>)</b>	ا د
166	4010	5	a ,	5100	l h	, ၁	3	;	1 )	1 3	1 2	1 3	)	)	1 1		1	)	0
167	135	3	a	5100	ţ)	٥	j 3	1	1 0	1 3	1 0	)	0	) 3	) )	ا د	2	91	2
168	1050	3	la	1610	9	p	į į	1	ļ i	1	3	·	.0	)	اد	0	э	ا ت	2
169	40010	5	a	3100	h	p	1 1	,	1	1	1 0	a	1	o o	1	0	a l	al	3
170	30010	5	a	3100	İı	٥١	1	1	1 1	1	ာ	0	1	9	1	3	0	o i	0 i
171	1010	5	a	5100	l h	٥	3	1	0	0	0	)	0	0	1	0	0	اد	13
172	-2003	5	a	5100	h	۵	)	1	0	) 3	0	0	9	0	1	0	1	0	0
173	72146	2	a	1000	h	٥	0	1	1	0	0	0	ာ	0	0	0	01	0	0
174	7075	2	0	3100	l n	٥	) )	1	1	!	1	0	ာ	0	١٥١	0	0	0	31
1/5	7070	2	a	3104	0	P	ر	1	1 1	1	1	0	0	0	0	0	0	9	0
176	12600	3	0	3100	1	٥	0	١	0	1	0	0	1	1	0	0	0	9	0
177	36700	3	a	3100	l ı	وا	0	1	0	1 1	0	0	1	1	0	٥l	اد_	3	3
178	7982	2	a	1110	n	0	1	١	1	;	1	0	1	0	٥j	0	0	0	اد
. 179	7978	2	g .	1110	h	0	1	1	1	0	1	0	_!	1	0	0	0	0	3
160	7994	2	a	1110	h	Р	1	1	1	0	1	0	1	1	0	0	0	o i	!
181	7990	2	a.	1110	h	2	1	1	! !	0	1	1	1	1	o i	0	9	0	<u> </u>
182	12040	5	a	5100	1	P	0	٥	1	1	٥	0	0	0	1	0	1 !	٥	0
183	14020	5	ь	3100	h	٥	0	!	0	0	0	٥	1	0	3	0	0	0	0
:84	3370	3	đ	3100	h	ρ	1	1	1	1	0	0	.1	0	اد	0	1	9	2
185	3380	3	a	1000	J	Р	1	1	1	1	٥	0	1	0	0	0	1	0	2
186	3390	3		1000	1	p	1	1	1		3	0	1	0 ;	0	3	- !	0	
187	31200	3		3100		0	0		0		0	0	-11	3	0	0 !	1	-1	0
188	42600	3		3100		ρ	اد		0	1	2	0	-1	0	0	0		1	0
:89	49600	3	•	3100		P	0	1	0	-1	0	0	1	0	01	01	!	1	0
190	48600	3	a l	3100		9	01		0	0	0	3	11	1	이	0	01	0	0
191	5766	2	<u> </u>	1000		p	0	0	٥١	0	0	0	1	0	0	이	0	01	<u> </u>
192	29750		•	3100	1	D	0	٥	0	0	이	0	1	01	0	3	0	0	
193	29550	3	<del>i</del>	3100		0	0	0	0	0	0	0	1	0 1	01	0	0	0	1
194	39688	3	a	3100		Р	3	0	0	1	0	이	0	0	0	0	0	- 01	
195	7050		<u> </u>	3104		<u> </u>	0	٥١	0	_'	-1	3	-11	3	3	0	<u> </u>	0	-
196	39385	3			<u>'</u>	P	0	1	1	01	11	91	1	0	01	0	01	01	
197	30300	3		3100		P	-!	11	_'		1	0	01	1	91	31	0	١٥١	-
198	11400		<b>u</b>	3100		ρ	0	1	0	0	0	0	01	2	3	0	0	0	
199	12500		a	3100		0	0	- 1	0	0	1	1	1	1	0	01	0	0	0
200	4282	3		3100	<del></del>	ρ	1	.1	0	1	-11	1	11	0	01	<u> </u>	0	01	-
201	31410	3	<del></del>	1900	<del></del>	<u>ρ  </u>	11	1	1	11	-11	11	11	0	01	0	01	0	0 1
202	31420	3		1000		ρ	1!	1	-!	1	4	11	11	0	01	21	01	0	2
203	31430	3   -	<del></del>	1050		P	11	1	1	1	01	-!	1	0	0	<u> </u>	0	0	- 0
204	9500	4		1050		<u> </u>	0	1	1	1	1	1	0	01	1	0	0	0	-
205	14201	5	<u> </u>	1302	<u> </u>	ρ	١٥	1	1	<u> </u>	1	0	11	0	31	0	1	11	0

	220	echeich	nocat	desig	rank	code	11	12	ı	<b>14</b>	1.5	امدا	<b>s</b> 7	ıa	59	:10	s11	112	s13 .
206	8100	5	5	1000	l n	р	1	1	1	1 1	1	0	1	0 1	0	0	ا ن	0	0 1
207	2010	3	5	5104	9	ט	ı	1	1	1	1	1	1	1	0	0	1	οi	3 :
208	28200	5	b	1000	a	٥	1	1	1	1	١	٥	ï	0	0	1	1	ا د	Э.
209	28200	5	Ь	1000	'n	۵	1	1	1	1	1	1	1	э	0	1	٥	0	0 1
210	±000	5	٥	1000	ŀ	5	1	1	1	1	1	0	1	0	0	1	1	0	<b>9</b> !
211	28200	5	ь	1000	h	ס	1	١	1	1	1	0	1	٥	0	1	1	۱٥	0:
212	1200	5	٥	1000	1	5	1	1	1	1	1	0	1	٥	0	1	1	3	0
213	1920	4	ь	3100	1	þ	1	1	1	1	1	0	1	0	0	1	1	0	3
214	850	5	D	3100	ı	p	1	١	1	1	1	0	1	1	0	1	1	٥į	0 1
215	1641	5	D	3100	ł	р	1	1	1	1	1	0	1	1	0	1	1	اه	3
216	3100	5	b	3100	1	p	1	1	1	1	1	0	1	1	0	1	1	2	3
217	9010	5	b	3100	h	D	1	1	1	1	1	0	1	1	0	1	1	1	o i.
218	25020	5	b	1000	ħ	ם ו	1	1	1	1	1	0	1	1	0	3	1	1	3
219	1600	5	b	3104	g	۵	1	1	1	1	1	1	1	1	1	0	a į	0	0
220	52000	4	b	3100	h	٥	1	1	1	1	1	1	١	1	0	1	1	0	0
221	20010	5	ь	3100	h	ρ	- 1	1	1	1	1	0	1	0	0	0	1	٥١	1
222	\$10	5	ь	3160	n	p	1	1	1	1	1	1	1	1	0	1	1	01	0
223	781	5	ъ	1000	<u> </u>	۵	1	1	1	1	1	0	1	0	0	1	0	0	o i
224	28200	5	0	1000	n	ρ	1	1	1	1	1	0	1	o i	0	0	1	0	0
225	21500	5	ь	1000	1	Р	1	1	1	1 !	-1	0	刂	0	3	1	1	0	0
226	4100	5		3100	1	ρ	٥		٥	0	0	0	0		1	0	0	3	-0
227	5400	5		3100	h	٥		1	'	_1	긔	1		이	0	0	0	1	
228	1050	5		3100		۱	-1	_'!	- '	1	0	0	1	0	0	11	1	0	0
339	10050	5		3104	-	р				-1	11	0	1	0	악	0	01		<u> </u>
230	320	5		3100	<del></del>	ρ	- 1	- '	11	1		0	1	<u>c </u>	0	0	0		-
231	310	5	b	1000		Р	1	_'!	'-	-'-		0	1	0	0	0	0	1	- 0
232	4100	5		3100		0	-1	1	-1	-1	1	0	1	0	0	0	0	11	- 0
233	425	5				ρ	-1	_'	- !	!		<u> </u>	1	0	0	31	01	0	0
234	80140	5	<del></del>	2300		Ρ	1	-1		_!	1	0	-!	0	0	0	- 11	01	0
235	907	5		2300	<del></del>	0	-11	-!!		11	-11	0	1	0	0	0	11	01	<u> </u>
236	910	51	·	2300	<del></del>	0	<u> </u>	-1	1	11	-1	0		0	0	01	11	01	- 0
237	425 I 38200 I	5	<del></del>	1000		P	- !	-!	1	- 1	1	0	1	01	0	01	1	0	3
239	31180	2		1000	<del></del>	<u> </u>		1	<del>-  </del>	11	-  -	0		0	01	0	- 1	01	-01
		<del>-</del>		1110	<del></del>	-	11			$-\dot{+}$			÷		-+	<del></del>		<del></del>	
240	150	5		1000	<del></del>	p	11	11	1	- 11	1	0	1	0	0	0	11	11	0
242	14020	3	<del></del>	2300	<del></del>	<del></del>		-	11	-+			<del></del>	<del></del>	0	0	<u>-</u> -	01	
243	14700	4		3100	<del></del>	p	+		1	11	11	0	11	0	0	01	11	1	31
244	4000	5		3100   1	<del></del>	0	11	1	1	<del>' </del>	1	0	1	0	01	0	- <u>' !</u>	- <u>' !</u>	0
245	7200 1	5	<del></del>	3100	<del></del>		+	0	1	+	1	0	1	01	+	31		3	-
246	310	5	<del></del>	1000		<u> </u>	+	11		+	+	0	1	0	01	0	11	- 3	01
	5.0 [			1 1000		<u> </u>	• !		- ! !		'	٠,	- ! !	٧!	٠,	71		1	

	DSC	echeion	subcat	desig	LGUK	code	s1	12	្ន	54	ಚ	امدا	57	28	59	\$10	:11	312	s13
247	11100	5	þ	3100	n	3	Э	1	) )	1	1	0	1	1	0	0 1	0	οĺ	0 1
248	1000	) i 5	دا	3100	n	5	1	1	1	1	0	اه	1	2	J	او	1	1	0.1
249	720	5	15	2300	h	ρ	1	1	1	1	1	0	1	3	0	2	:	01	ا د
257	30	. 5	ь	3100	h	۵	0	1	)	٥	1	0	1	0 1	٠,	0	01	0	3
251	38200	, 5	15	1000	ı	0	1	1	1	1	1	0	1	0	2 1	91	oi	0 1	31
252	2010	3	5	5104	g	۵	1	١	١	1	1	0	0	0	)	0	01	0	0
253	7030	] 3	Ö	3100	h	Э	1	1	1	1	1	0	1	1	3	0	οi	0	3
254	51000	5	b	5100	j	۵	1	1	1	1	1	0	1	0	اه	اه	0	3	0
255	70100	5	ь	3100	n	۵	9	1	1	1	. 1	0	1	0	3	οi	0	0	3 !
256	5510	5	ь	3100	1	۵	1	1	1	1	1	3	1	0	اه	اد	)	1 †	0
257	9050	5	b	3100	h	۵ (	1	1	1	1	1	0	1	0	٥	0	0	1	0 (
258	20200	3	b	2300	1	۵	1	1	1	1	1	0	1	0	0	0	1	1	3 1
259	40100	; 5	ם	2300	1	כ	1	1	1	1	1	0	1	o l	01	9	1	1	01
260	72000	4	0	3100	n	a	1	1	1	1	1	0	1	0	0	0	1	1	9
261	722	5	5	2300	h !	۵ ا	1	1	1	1	1	0	1	0	0	01	1	1	0
262	705	5	ь	2300	ı	<b>o</b>	1	1	1	1	1	0	1	0	0	0	1	1	اره
263	9020	5	ь	2300	h	۵	1	1	1	1	1	0	1	0	٥١	3	1	1	0
244	905	5	5	2300	1	D	1	1	1	1	1	3	1	3	۱٥	3	1	1	0
265	350	5	ь	3100	<u> </u>	o į	1	1	1	1	اد	9	1	0	٥١	0	0	0	0
266	650	5	ь	3100	n i	<b>a</b>	1	1	<u> 1</u>	1	1	1	1	0	0	0	0	0	0 .
267	24240	5	С	3100	1	ρ	0	1	١٥	0	ار	0	1	0	٥į	0	0	1	0
268	600	5	c	1000	1 !	Q	ol	1	0	οi	0	١٥	11	0	0	0	0	0	<u> </u>
269	4130	5	c	1000	!	ا م	0	01	0	0	1	0	0	0	0	0	0	9	1
270	4410	. 5	c	1000	n	<b>a</b>	0	11	٥	0	1	0	oj	0	0	0	0	0	
271	8500	. 5	c	1050	0	٥	<u> 1;</u>	1	1	1	1	1	0	0	0	0	0	٥į	0 1
272	19500	5	c	1000		<b>o</b>	1	1	1	1	0	0	0	a i	0	0	0	0	3 i
273	o7200	5	c	1000	)	0	0	1	0	0	91	0	1]	0	0	اد	0	1	0 1
274	18200	5	c	1000	1	0	0	1	0	0	01	0	1	0	0	.01	٥١	1	0
275	920	5	с	1050	n	0	0	<u> </u>	0	0	0	0	1	0	01	0	0	1	0
276	13040	5	c	2300		0	ᆘ	<u> </u>	1	1	1	0	1	0	2	0	11	0	0
277	13060	5	<u> </u>	2300		a	1	11	1	11	1	0	1	0	0	9	1	0 !	0
278	انعد	3	5	1000		9	11	1	1	11	<u> </u>	0	1	1	01	1	0	١٥١	0
270	340	3		1000	3	9	1	11	븻	11	1	1	11	1	01	0	0	٥١	<u> </u>
280	510 (	5	ס	1000	-	<u>a  </u>	1	0	1	1	1	٥١	11	0	01	0	11	1	2
281	420	5		2300   1	<del></del>			1	1	1	<u> 1 j</u>	1	11	0	11	0	0	0	3
282	902	5	ь	2300   9		3	1	1	1	11	11	1	1	0	1	0	3	0	0 #
283	905	5	ь	2300   9	<u>_</u>	3	1	11	1	1	1	11	11	0	1	01	01	01	0
284	905	5		2300	1	<u> </u>	1	1	1	11	1]	1	1	0	1 1	0	01	0	01
285	<del>706</del> i	5	<del></del>	2300   1	1	•	1	1	1	1	1	1	1	0	11	0	۱ د	0	0
284	1910	4		1000	<u> </u>	1	1	11	11	1	<u> </u>	<u> </u>	1	1	0	01	اد	0	0
287	905	5	ь	2300   6		1	1	1	1	빌.	1/	1	1	0	1	0	01	01	0

	Dsc .	achelon	i subcat	desig	-ank	code	;1	12	ង	:4	ıś	اما	57	:8:	<b>19</b>	s:0	:11	s12	s13 :
258	5001	, š	5	1000	g	a	; ;	1	1	1	9	0 (	1	0	3	1	01	0	0
289	910	5	0	2300	l n	ļ a	; ;	1	1	1	! 1	11	1	O.	1	3	3	0	3 .
590	5001	5	5	1000	la	<b>a</b>	; 1	1	1	1	J	)	1	0	3	:	.11	ا د	3 (
291	715	ś	b	2300	وا	ia	1	;	1	1	1	1	1	0	1	0	91	3 (	3:
565	6001	5	5	1000	g	3	1	1	1	1	1 3	01	1	0	٥	!	اد	3	<b>)</b> (
293	1500	3	D	1000	l n	. 3	1	1	1 1	1	1	1	0	1	a l	0	11	0	3
294	6002	5	ס	1000	g	a	1	1	1	1	)	0	1	0	3	1	oj	3	0 1
295	1000	٩	٥	'000	3	a	1	1	1	1	01	0	1	q	0	1	0	0	3
206	5001	5	ם	1000	g	q	1	1	1	1	oi	2	1	0	0	1	0	0	3 !
297	7010	3	b	1000	g	q	1	1	1	1	1 1	1	0	1	0	0	1	01	3 #
298	7100	5	0	1000	9	a a	1	1	1	1	1	1	1	1	0	0	٥į	11	Э
299	7100	5	ь	1000	0	a	1	1	١	1	1	1	1	1	اه	0	0	0	2
300	10040	3	ъ	2300	ą	a	1	1	1	1	1	1	1	0	1	٥	اد	ol	3 1
301	10100 (	5	D	1000	n	a	1	1	1	1	11	1	7	0	1	2	0	0	0
302	:0140	3	ъ	2300	9	a	1	1	1	1	1	1	1	0 1	1	0	0	0	0
303	11010	3	b	1000	9	q	1	1	1	1	1	1	1	0	0	1	1	١٥	اد
304	24010	3	b	.000	g	a a	1	1	1	1	1,	01	0	1	0	. 3	0	2	3
305	11020	5 (	5	2300	g	a i	1	١	1	1	1	1	1	0	1	٥١	0	0	3 [
306	11020	5	ъ	2300	h	ď	1	1	1	1	1	1	1	0	1	0	0	0	0
307	11020	5	5	23/:3	g	a	1	1	t	ı	1	1	1	٥١	1	0	0	0	0
308	11020	5	b	2300	g	q l	1	1	1	1	1	1	1	0	1	0	اه	0	0
309	11020	5	b	2300	g i	a i	1	11	1	1	1	11	1	0	1	0	0	0	9
310	22080	5	b	2300	n	<b>a</b>	11	1	1	1	1	11	1	0	1	0	jc	31	3 1
311	31010	3	b	1000	g i	g	1	1	1	1	1	1	1	1	اه	1	0	اد	3 5
312	10730	3	a	1000	g	a l	1	0	1	1	1	1	1	0	0	0	0	اد	0 (
213	11010	3	a	1000 (	g	q į	1	1	1	1	1	1	٥١	1	0	0	0	0	01
314	13030	3	a	1000	g	a !	1	1	1	- 1	1	0	0	0	0	1	0	oi	0
315	2609	2	a	2300	g l	a l	1 j	1	1	1	1	1	1	0	0	1	0	a l	0
316	2610	2	a	2300	0	<b>q</b>	1	1	1	1	1	1	1	٥١	0	э	0	0	0
317	11220	3	a	2300	h	q	1	1	1	1	1	1	1	0	٥١	0	اه	0	3
318	72250	3	a	1000	g i	q	1	1	1	1	1	1	1	1	0	1	0	0	0
319	6580	2	a	1000		q i	1	1	1	1	τÌ	1	1	1	0	1	٥١	0	0
320	7974	2	a !	1110 [	0	a l	1	1	1	1	11	1	0	1	91	1	0	0	
321	5990	2	a	1000	h	a i	1	1	1	1	1	11	0	9	٥١	0	1	0	0
322	2053	2	a	1000	n i	a l	1	1	1	1	!	11	0	1	9	0 i	1	0	0
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324	5051	2	0	1050	0	a l	1	1	1	1	1	11	0	1	0	01	1	0	0
325	370	3	a	1000	h	a i	1	1	1	1	1	1	0	0	1	0	1	0	0 1
326	2800	2	a l	1000	a	<b>a</b>	1	1	1	1	1	1	0	1	0	3	0	0	3 (
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### APPENDIX C

## Hypothesis:

- $H_0\colon$  The requirement for a particular billst skill is independent of a particular identifier category.
- $\mathbf{H}_i$ : The requirement for a particular billet skill is dependent upon a particular identifier catergory.

## Critical Values:

Command Echelon = 9.24 Rank = 6.25 Designator = 18.55 P or Q Coded = 2.70

# Budget Analysis Skills (S1):

	Chi-squared value	Decision on Ho
Command Echelon	10.19	Reject
Rank	11.92	Reject
Designator	53.38	Reject
P or Q Coded	14.96	Reject

# Financial Policy and Advisory Skills (S2):

	Chi-squared value	Decision on Ho
Command Echelon	10.54	Reject
Rank	2.99	Accept
Designator	14.17	Accept
P or Q Coded	0.75	Accept

### Budget Formulation Skills (S3):

	Chi-squared value	Decision on Ho
Command Echelon	13.79	Reject
Rank	7.15	Reject
Designator	42.23	Reject
P or Q Coded	7.14	Reject

## Budget Execution Skills (S4):

	Chi-squared value	Decision on Ho
Command Echelon	15.10	Reject
Rank	11.79	Reject
Designator	24.78	Reject
P or C Coded	9.78	Reject

DoN Budgetary Knowledge Skills (S5):

	Chi-squared value	Decision on Ho
Command Echelon	7.48	Accept
Rank	18.71	Reject
Designator	34.64	Reject
P or Q Coded	6.28	Reject

# PPBS Skills (S6):

	Chi-squared value	Decision on Ho
Command Echelon	9.81	Reject
Rank	57.73	Reject
Designator	35.82	Reject
P or Q Coded	165.40	Reject

# Accounting Technical Skills (S7):

	Chi-squared value	Decision on Ho
Command Echelon	44.95	Reject
Rank	8.06	Reject
Designator	61.83	Reject
P or Q Coded	0.23	Accept

# Communications and Liaison Skills (S8):

	Chi-squared value	Decision on Ho
Command Echelon	39.73	Reject
Rank	14.93	Reject
Designator	55.67	Reject
P or Q Coded	6.33	Reject

# Contract Advinistration Skills (S9):

	Chi-squared value	Decision on Ho
Command Echelon	14.93	Reject
Rank	15.53	Reject
Designator	44.42	Reject
P or Q Coded	46.25	Reject

# Financial Reporting Skills (S10):

	Chi-squared value	Decision on Ho
Command Echelon	2.91	Accept
Rank	3.94	Accept
Designator	19.68	Reject
P or Q Coded	8.51	Reject

# Supervisory Skills (S11):

	Chi-squared value	Decision on Ho
Command Echelon	4.79	Accept
Rank	18.53	Reject
Designator	29.21	Reject
P or Q Coded	38.07	Reject

# Auditing Skills (S12):

	Chi-squared value	Decision on Ho
Command Echelon	43.41	Reject
Rank	1.91	Accept
Designator	32.63	Reject
P or Q Coded	12.45	Reject

# Weapons Systems Acquisition Skills (S13):

	Chi-squared value	Decision on Ho
Command Echelon	1.54	Accept
Rank	1.34	Accept
Designator	26.55	Reject
P or Q Coded	0.18	Accept

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